SOUTH DEALER ISSUE Pages 9-16

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WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

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N FARM COST REPORT

USDA Points Up Favorable Chemical Prices

ertilizer Sales tay High Despite ower Farm Income

WASHINGTON — In contrast to revious experience when farm in- me was declining, farmers now are ntinuing to use more plant foods, e U.S. Department of Agriculture sclosed last week in its November, 55 issue of the "Farm Cost Situa- on Report." At the same time, SDA says that average costs of ant nutrients have declined slightly the last three years as compared ith the 1947-49 base.

In recent years, says USDA, lant food use has failed to follow he old pattern of decline follow- ng farm income drop, but it notes he severe drops in farm income fter World War I and in the early hirties as probably being extreme onditions which do not form a fair omparative basis.

Following farm income drops in 48 and 1952, plant food consump- on rose substantially although prices r these products declined only ghtly. Possibly reflecting a changed titude towards plant foods by farm- s generally, the USDA reports that 1953 when gross farm income fell index points from the 1952 levels, ant food use increased nine points er the previous year also, with only small decline in fertilizer costs.

One of the major reasons at-

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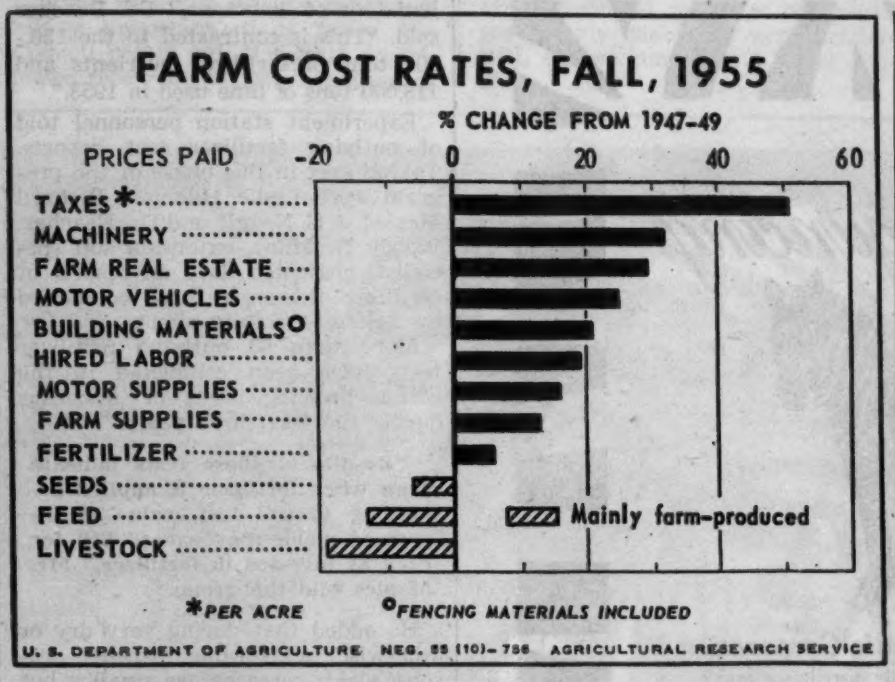

FERTILIZERS REDUCE SQUEEZE—The above graph, prepared by the USDA Agricultural Research Service, points up the fact that fertilizer prices have advanced but little in the past eight years. Despite declining farm income, fertilizers and other chemical products used to cut down the unit cost of production, are still the farmers' best buy.

Pesticide Costs Down Since 1951; Outlook Good

WASHINGTON—While prices of most pesticides in 1955 held close to their 1954 levels, the U.S. Department of Agriculture notes in its November, 1955 "Farm Cost Situation Report" that this part of the chemical industry has been steadily contributing to improvement in the farm cost conditions through substantial reduction in the prices of its products since 1951.

Leading the parade of better prices for agricultural pesticides, USDA notes, are important products such as benzene hexachloride and DDT whose prices are respectively one-third and three-fifths as high as they were in 1951. Not only those products are singled out for their lower costs to farmers, but other important insecticides such as aldrin, calcium arsenate, lindane and toxaphene are also lower.

Farm use of pesticidal chemicals on farms in the last decade has been climbing. Farm use for pest control materials and applications by custom operators in 1952 amounted to 250 million dollars, USDA declares.

Net acreage sprayed or dusted one or more times was equal to one-sixth of the acreage of principal crops harvested in 1952.

About half of this acreage was sprayed to control insects and diseases and the other half for control of weeds and brush. Probably less than half of the acreage was sprayed for both purposes.

USDA estimates that 1955 pesticide use was greater than that of 1954.

AAI IN SESSION

KANSAS CITY—More than 1,000 ersons are expected to attend the fth annual convention of the Agri- ultural Ammonia Institute, which pens here today. The convention in- ludes a large trade show at which ll types of anhydrous equipment will e on display. A feature of the pro- ram will be the appearance of five eading agronomists in a panel on Agronomic and Soil Characteristics f Anhydrous Ammonia." The con- ention will end Dec. 7.

Systemics and Granular Pest Control Materials Discussed At Cincinnati ESA Meeting

CINCINNATI, OHIO — A program featuring technical papers on insect physiology, toxicology, ecology and various types of pesticides and their modes of action was included on the agenda of the Entomological Society of America in its third annual meeting at the Netherland Plaza Hotel here Nov. 28-Dec. 1. The meeting brought together entomologists and representatives of the insecticide industry from all parts of the country.

Dr. B. A. Porter, head of the Fruit Insect Section of the Entomological Research Branch, USDA, Beltsville, Md., became president of the ESA, succeeding Dr. George C. Decker, Illinois State Natural History Survey entomologist. Both men presided at various sessions of the meeting during the four-day convention.

In his presidential address on Nov. 28, Dr. Decker discussed the history of insects, picturing them as particularly well-adapted creatures who have been on the scene much longer than mankind has. He likened the insect pests to "share-croppers" whose annual "share" is far greater than most people think and far beyond what it should be. Man's struggle with the insect will go on for a long time, he predicted, and may never resolve itself. (Excerpts of Dr. Decker's talk appear on page 19 this issue of Croplife.)

The program was divided into thirteen sections, covering all technical and practical phases of entomology and control of pests through chem-

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uccess of Herbicides Traced in Talk at Western Canada Weed Control Meeting

WINNIPEG—"Weeds in Western anada trace back to pre-settlement nd homesteading days when traders, ailway construction gangs and oth- rs unknowingly introduced, in pack- ng materials, feed for animals and eed grain, weed seeds that took indly to the fertile soil and favor- ble climate."

This statement was made by H. E. Wood, chairman of the Weeds Com- mission, Manitoba Department of griculture, in Regina, Sask., Nov. . Addressing the 8th Western Can- ada Weed Control Conference, Mr. Wood declared that most of the prairie's troublesome and difficult to eradicate weed species were introduced rather than native.

With the extensive grain growing that has taken place in Western Canada since the turn of the century weeds have become one of the farmer's most serious and baffling problems, Mr. Wood said. However, he pointed out that in recent years

(Continued on page 4)

Use of Antibiotic As Economic Poison Approved by FDA

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — In an unprecedented action this week, Food & Drug Administration gave approval to the use of an antibiotic as an economic poison.

This official action came when FDA approved a residual tolerance level for Aureomycin in a product to be marketed by the American Cyanamid Co. under the trade name "Acronize Chlortetracycline" which is designed to check development of spoilage organisms and prolong freshness of poultry. USDA officials comment that to the extent that it may increase the efficiency of eviscerating poultry plants and extend

(Continued on page 4)

85% of Arkansas Soil Needs More Plant Food and Lime, State Fertilizer School Told

LITTLE ROCK—"There is a general need for the addition of lime, nitrogen, phosphorus and potash, or combinations of these nutrients, on more than 85% of all soils in Arkansas if good crop yields are to be maintained."

This summary of results from soil tests over an eight-year period was given by Dr. R. L. Beacher, head, University of Arkansas Soil Testing Laboratory, at the 5th Annual Arkansas Fertilizer School held at the University of Arkansas here Nov. 18.

Manufacturing and sales personnel representing the fertilizer industry in the state, along with University of Arkansas research and extension agronomists and other agricultural workers, met for the day-long activity.

Dr. Beacher's summary was based on results from soil tests made on more than 66,000 fields representing more than 1,200,000 acres of Arkansas farm land tested during the period 1946 to July, 1954.

One point of special interest to the 125 fertilizer men attending was data presented by Dr. Beacher showing the actual amounts of lime and fertilizer that had been recommended on soil test reports on 30,000 samples during one fiscal year, 1953-1954, compared to the amount of fertilizer actually consumed during that time.

Soil test reports recommended an average of 50 lb. of nitrogen, 29 lb. of phosphoric acid (P_2O_5), 27 lb. potash (K_2O), and 1.6 tons limestone per acre over all acres tested. Consumption figures show that farmers used an average of only 20 lb. of nitrogen, 9 lb. of P_2O_5 and 14 lb. of K_2O over all harvested cropland. Pastures received very little of these materials.

"If all Arkansas farmlands were fertilized and limed according to minimum recommendations for economical returns on fertilizer and lime costs, annual Arkansas fertilizer consumption should approach 500,000 tons of actual nutrients and 16 million tons of limestone," Dr. Beacher said. "This is contrasted to the 130,000 tons of fertilizer nutrients and 118,000 tons of lime used in 1953."

Experiment station personnel told of outlying fertilizer test reports. Taking part in this phase of the program were Leslie Hileman, Richard Maples, J. C. Noggle and Dr. Beacher. Woody N. Miley, extension soil specialist, presented data on results of fertilizer demonstrations conducted by Arkansas county agents.

More than 60 outlying fertilizer tests have been conducted in the cotton growing areas of Arkansas during the last three years.

"Results of these tests indicate than when fertilizer is applied according to soil test, value of increased yields may exceed $10 for each $1 invested in fertilizer," Mr. Maples told the group.

He added that during very dry or otherwise unfavorable growing seasons, yield increases are smaller but are normally worth $2 or more for each $1 invested.

Mr. Hileman, reporting on pasture-meadow fertilizer tests in 1955, said that yields in some instances were increased 50% when potash and phosphate were added according to soil tests. Protein was increased 18 times or more by the addition of nitrogen, and along with the increase in yield, protein quality of forage was definitely improved.

About 30,000 soil samples were sent to the two soil testing laboratories by Arkansas county agents during 1954. Although yield results were not obtained from many of these demonstrations, visual results were pointed out to farmers during field days and other educational meetings, Mr. Miley explained.

The extension soils specialist reported that a total of 31 fertilizer demonstrations on cotton have been conducted in North Mississippi county on gumbo and mixed soils during the past four years.

In the afternoon, Dr. George E. Smith, University of Missouri spoke on "Soil Fertility and Farm Efficiency." Two University of Arkansas agronomists also took part. "Interaction of Nitrogen and Moisture on Crop Yields," was covered by Dr. D. A. Brown; and Dr. R. P. Bartholomew discussed, "Evaluation of Soil Types for Yields."

Beginning with fertilization of farm ponds, Dr. H. S. Swingle of Alabama Polytechnic Institute explained, "How to Fish." He told where fish would be during different times of the day and during different seasons, and then touched on the types of bait to use. He ended by saying that when these were not taken into consideration, then the fisherman had to rely on the all-important factor—good luck.

This annual fertilizer school is sponsored by the Agricultural Experiment Station and the Agricultural Extension Service of the University of Arkansas in cooperation with the Plant Food Educational Society of Arkansas.

The educational society was organized last fall to foster and promote the dissemination of useful and practical information regarding the forms of plant foods that will result in the production of better crops and increased farm yields. Active members are individuals engaged in or representing a firm in actual and active manufacture or distribution of commercial fertilizers or fertilizer materials registered with the Arkansas State Plant Board.

With increased membership and interest, the board of directors of the society outlined several major objectives for the coming year at a dinner meeting held preceding the Fertilizer School.

One was to have L. A. Dhonau, secretary-treasurer of the society, appointed as a member of the Arkansas State Plant Board to represent the fertilizer industry. Another was to approach extension service administrators about the possibility of securing a second soils specialist to work strictly on fertilizer demonstrations to promote increased usage of plant food nutrients in the state.

A committee was appointed to meet with representatives of both 4-H and FFA activities to see in what ways the society could help in developing a state-wide soils judging program.

At the business meeting, several new men were elected to serve on the board of directors. Following the business session, the directors chose to keep the same officers for the coming year. These are Bill Dunklin, president; R. M. Morehead, vice president; and Mr. Dhonau, secretary-treasurer.

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Robert C. Berry

Robert C. Berry Named to Post with Miller Chemical

BALTIMORE—Miller Chemical Fertilizer Corp., Baltimore, has announced the appointment of Robert C. Berry as entomologist and sales representative.

Prior to joining the Baltimore firm, Mr. Berry graduated from the University of Delaware, and was manager of the agricultural chemical department of the Swedesboro (N.J.) Supply Co.

Mr. Berry was formerly with the S. B. Penick & Co., New York, in the capacity of supervisor of Penick's field development of insecticides. Prior to this time, he was research fellow in entomology at the University of Delaware, and at the University of Maryland as an instructor in entomology.

At the present time, Mr. and Mrs. Berry and their two daughters reside at Newark, Del.

H. Clark Named ice President of ennsalt Chemicals

PHILADELPHIA — Lee H. Clark, neral manager of the Pennsylvania lt Manufacturing Co.'s Sharples emicals Division, has been named ce president of the parent company, illiam P. Drake, president, has an- unced. While the scope of Mr. ark's new office was not disclosed, is understood that his major duties ll be concerned with corporate or- nization and planning functions. He sumed his new position Dec. 1.

Mr. Clark, a native of Brooklyn, is alumnus of Cornell University here he majored in chemical en- eering. Following brief associa- ns with the National Sugar Refin- and General Chemical companies, joined the Sharples Corp. as a emist in 1921 and two years later came chief chemist.

He continued in this position until 29 when he joined Sharples Chemi- ls, Inc., and became manager of its lle, W. Va., plant and vice presi- nt in charge of production. This ant and Mr. Clark's headquarters re subsequently moved to Wyan- tte, Mich.

In 1950 he was transferred to iladelphia, advanced to the office executive vice president and served this position until elected presi- nt of the Sharples Chemicals or- nization in 1954. When this Penn- lt subsidiary was dissolved early s year and integrated as a major erating division of the consolidated mpany, Mr. Clark continued to rect its activities in the capacity of eral manager. He has also been rving as president of the Index emical Co., another Pennsalt sub- iary.

fficials Alerted Capture of exican Fruit Fly

SACRAMENTO — California De- rtment of Agriculture officials have n notified that a single male Mex- n fruit fly was trapped in Tecate, a California, in October, empha- ing the need for continuation of tective barrier operations north of border.

U.S. Department of Agriculture au- orities have been trapping the area sistently since the first Mexican it fly was found at Tijuana. The lifornia Department of Agricul- re, assisted by county agricultural mmissioners, has been spraying all t trees within five miles of the der as part of the maintenance the protective barrier against rthward spread.

Federal officials informed the de- rtment that most of the flies pped in Baja California apparently erged from contraband infested arantine shipments.

ul E. Weber New izer Chemical Sales Head

NEW YORK—Chas. Pfizer & Co., ., has announced the appointment Paul E. Weber as sales manager the company's chemical sales di- ion. He succeeds Frank F. Black, o has resigned from this position who is severing his connection h the firm as of the end of the ar.

Mr. Weber, a University of Iowa duate with a B.S. in chemical en- eering, has been with the com- y since 1938 when he served as field sales representative. After ving in the Navy in World War II, Weber returned to Pfizer in 1946, resenting the company in the east, West and South.

In 1948 Mr. Weber was named tern regional manager. He was pointed national field sales man- r in 1953, and assistant sales man- r at the Brooklyn, N.Y. head- rters the following year.

Disease Control Talks On Cotton Production Conference Program

MEMPHIS — Cotton diseases cost farmers almost one and a half million bales in 1954, according to estimates of plant pathologists across the Cotton Belt. This represented more than 8% of the entire crop. Seedling diseases took the heaviest toll, while fusarium and verticillium wilt and root knot nematode followed closely.

The need for effective disease control, as the key part of an overall, balanced program of cotton production practices, will be emphasized at the first annual Beltwide Cotton Production Conference here Dec. 15-16 at Hotel Peabody. Conference sponsor is the National Cotton Council.

While effective disease control is highly important, it is futile, the Council points out, if insects are allowed free rein to destroy cotton, or if weeds go unchecked and choke crop growth. Just as important to the whole picture are proper fertilization, defoliation, irrigation and other practices.

Previously the Council has sponsored separate conferences on insect control, weed control and defoliation. The December meeting will not only replace these three, but will bring other problems within its scope as well.

The portion of the conference concerned with diseases will consider new methods of in-furrow treatment with fungicides to prevent loss from seedling diseases.

Cooperating with the Council in sponsoring the meeting are Cotton Belt land grant colleges, the U.S. Department of Agriculture, the agricultural chemical industry, farm organizations and others. Immediately preceding the conference, and held in conjunction with it, will be separate technical meetings of groups particularly concerned with defoliation, disease control and insect control.

CROPLIFE'S NEW YORK OFFICE MOVES

The Eastern States office of The Miller Publishing Co., publisher of Croplife, moved Dec. 1 to new and larger quarters at 551 Fifth Ave. The complete address of the new office is: Suite 3214, 551 Fifth Ave., New York 17, N.Y. The new telephone number is MUrray Hill 2-2185. The teletype number remains unchanged: NY 1-2452.

New Bromine Plant Planned in Arkansas

EL DORADO, ARK. — Michigan Chemical Corp., St. Louis, Mich., and the Murphy Corp., El Dorado, have signed a joint contract for the construction of a plant to produce bromine. The plant will cost about $1 million, and construction is expected to get under way in February. Two sites near El Dorado are under consideration.

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Turf Conference Set

COLLEGE STATION, TEXAS — The nation's most expensive crop will be the subject of a meeting at Texas A&M College Dec. 12-14. That's when the tenth annual Texas Turfgrass Conference will be held. "Few persons realize that more money is spent for turf—as represented by lawns, parks, cemeteries, airports, golf courses and highway rights-of-way—than for any other single crop," says Dr. E. C. Holt of A&M's agronomy department, who is serving as conference chairman.

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CANADIAN MEETING

(Continued from page 1)

farm power and herbicides have come to his aid.

Persistent weeds like leafy spurge, field bindweed, hoary cress, Russian knapweed and toadflax have been brought under control through the combined efforts of the provincial governments in the three prairie provinces, according to Mr. Wood, as he pointed out that many farms are now free of such weeds.

Mr. Wood described 2,4-D as an inexpensive, safe and effective means of controlling many troublesome broad-leaved weeds in grain crops and stated that during the past season in Western Canada 14 million acres had been treated for weeds, mostly with 2,4-D. For an outlay of approximately $10 million for chemicals it was estimated that the savings in grain were some 53 million bu. valued at $56 million.

Herbicides directed towards the extermination of specific weeds are now making their appearance, Mr. Wood stated, with the search for a chemical, or other means of destroying wild oats, being given a priority by leading weed authorities and chemical companies.

Hopeful signs that weeds were at long last on their way out, according to Mr. Wood, center around the determination of farmers to bring them under control, stepped-up research-extension weed programs and efficient and effective control measures through farm mechanization and the use of herbicides.

New Kansas Firm

PRAIRIE VILLAGE, KANSAS — The Kaw Fertilizer Service has been incorporated here with capital listed at $20,000. Incorporators are Dean McHard of Lawrence and James E. Adams and Carl W. Jackson, both of Kansas City.

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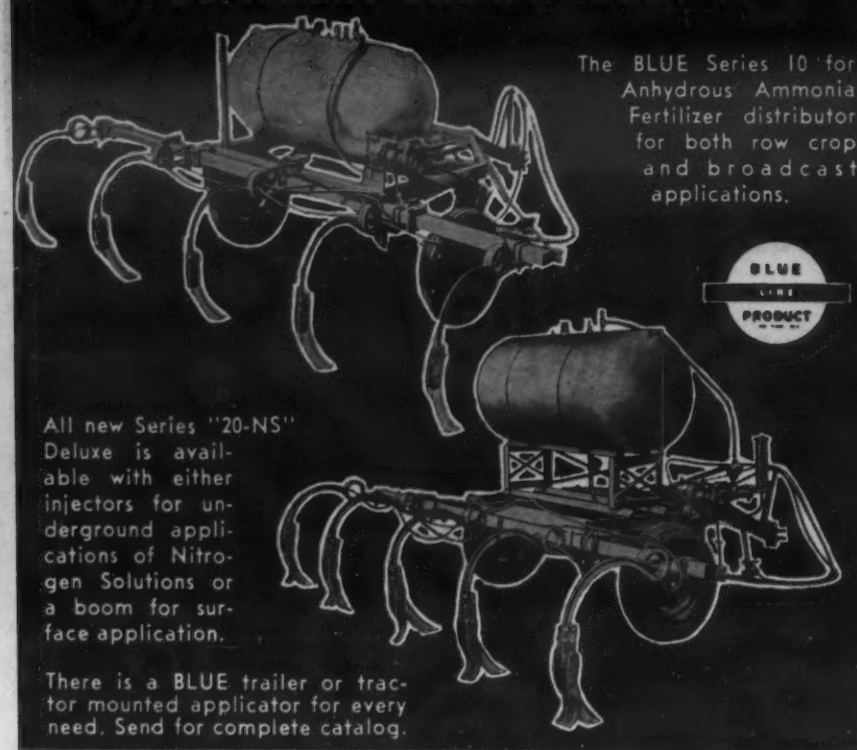

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Chemists Talk Over Selling Problems at MCA Conference

NEW YORK—Problems of merchandising and marketing as well as technical phases of the chemical business were on the agenda for discussion at the 5th semi-annual meeting and winter conference of the Manufacturing Chemists' Assn. here Nov. 22. Speakers included representatives of MCA companies and Admiral Jerauld Wright, Commander-in-Chief, U.S. Atlantic Fleet and Supreme Allied Commander, Atlantic.

The all-day conference brought before some 650 chemical industry executives six panel discussions on the topics of merchandising and marketing, the executive shortage, air pollution abatement and other more specialized subjects concerning the chemical industry.

Hugo Riemer, president of the Nitrogen Division of Allied Chemical & Dye Corp., New York, was moderator of the marketing and merchandising panel. Participants were John A. Field, vice president, sales development, Carbide & Carbon Chemicals Co., New York, and Paul D. Slawter, vice president of G. M. Basford Co., New York.

Mr. Slawter pointed out numerous examples of how different media reach great masses of potential buyers at low cost. He outlined the marketing of a number of new household chemicals designed to make the housewife's work easier, and used as an example, the steps taken by the insecticide industry to make more efficient the task of controlling flies and other pests.

Mr. Field reminded his listeners that there is no "best" way to develop a market for a new industrial chemical. He said that two basic types of development followed in the chemical industry, could be described as the "rifle technique" and the "shotgun technique." In the former, a chemical for a specific job is developed to suit an end use.

"Although this technique may be limited to contacts with a single customer, problems encountered will include such things as translation of research data to plant production, economic studies, choice of equipment, determination of quality and the study of hazards involved with working with or shipping the chemicals," he said.

The "shotgun technique," on the other hand, involves the development of unknown uses for a known chemical by bringing the existence of the chemical to the attention of as many research and development workers as possible. This method is characteristic of the development of markets for chemicals which are or can be made available by established commercial processes, Mr. Field said.

BOTANICAL FRATRICIDE

BERKELEY, CAL. — Based on the observation that certain plants have developed a defense against the intrusion of competitive weeds, efforts are being made at the University of California to isolate the material manufactured by some plants to kill other plants.

Graduate student Morris Inge, under the direction of Alden S. Crafts, professor of botany at the University, is carrying on this study to determine how certain brush plants on California rangelands produce their own weed killers. Among these plants are one kind of manzanita and a species of chamise which apparently manufacture a compound which keeps grasses and herbaceous weeds from growing under the brush plants.

ANTIBIOTIC

(Continued from page 1)

the shelf-life of poultry, this FD action may effect some substanti economic advances in the slaught and marketing of poultry.

It has been learned in other qua ters that this manufacturer conte plates further residual tolerance a plications for this product on be fresh fish, shrimp and, later, on fre fruits and vegetables.

For the chemical industry, how ever, the importance of this un precedented approach to an anti biotic as an economic poison open a new avenue of administrativ technique under the Miller amend ment to the FDA law.

The architect of this approach f the American Cyanamid Company a Washington attorney, Michael Markel, a specialist in FDA law.

The cyanamid case ante-dates t Miller amendment to the FDA la It was submitted to FDA sever years ago on the grounds that t product could be assigned a tole ance level since the FDA policy a plicable at that time did not ful close the door on such application

It was developed that USDA ha previously ruled that fresh kille poultry was an agricultural com modity in its raw state. That ruling plus the passage of the Mille amendment, perfected the Marke approach to the American Cyana mid Co.'s problem. USDA certifie the usefulness of the Aureomycin product of this company to FDA.

After submission of scientific da on the product as to its harmlessne to humans when used on fresh-kille poultry, FDA took final approval a tion this week.

This action provided a tolerano level of seven parts per million o uncooked poultry, provided that th tolerance was uniform and not ex ceeded in any part of the uncooke product. The Cyanamid company supporting data is said by FDA have disclosed that in cooking, th approved tolerance level disappea completely.

If as now expected, further to erance approvals are asked for bee fresh fish and shrimp by this com pany, the same approval formul will be retained by FDA.

In the case of use of antibiotics as an economic poison on fresh fruits and vegetables, the prob lem is complicated by the necessity that the FDA will probably re quire that approval will hinge on the ultimate disappearance of the antibiotic prior to consumption by the consumer.

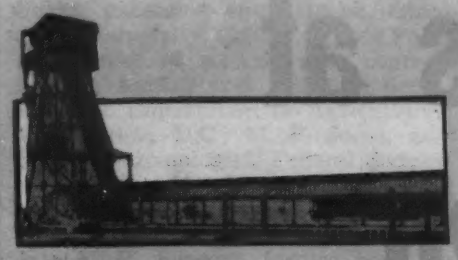
USDA officials of the poultry grad ing and inspection service say tha before eviscerating and processin plants can use this product it wil be necessary for them to present evi dence of the FDA approval of th product before shipments can b cleared. However this statement i largely of a warning nature and wil not reflect any obstacle to any ad venture in its use.

According to FDA the use prac tice for this product in the poultr industry will consist of the additio of the antibiotic to the chill wate used after dressing.

Hercules Proposes 3-1 Split of Common Stock

WILMINGTON, DEL.—Stockhold ers of Hercules Powder Co. will b asked to approve a proposed 3 to split of the common stock, the com pany announced Nov. 30 at the clos of the directors' meeting.

The proposed split will be sub mitted to stockholders for approva at their annual meeting March 20 1956. At the same time they wil be asked to change the shares from no par value to a par value of $2 1/2 per share.



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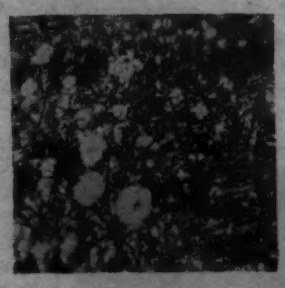

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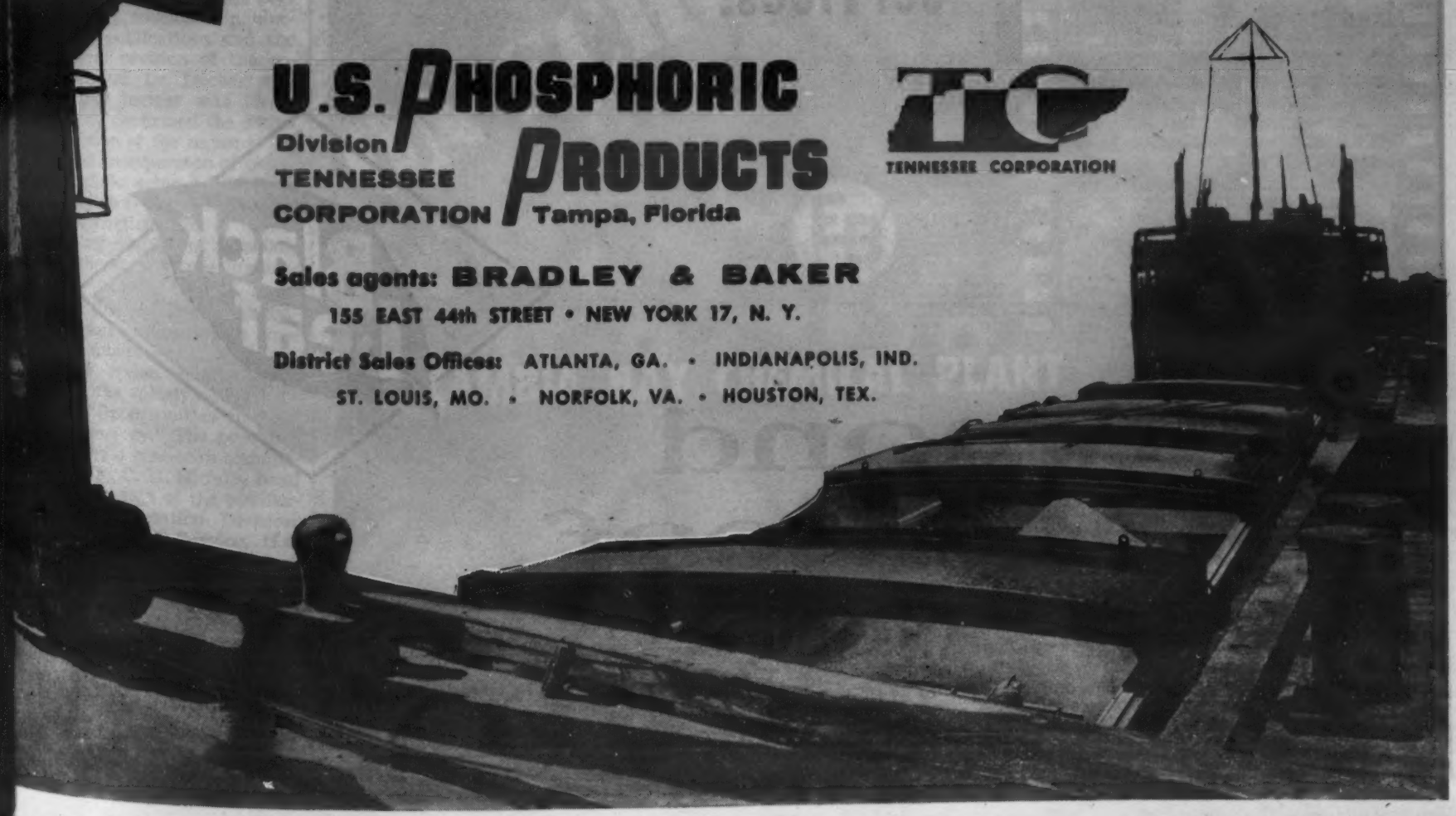

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1350 South 17th Street
Louisville, Kentucky

San Jose Sales Office
P. O. Box 817
San Jose, California

astern States ESA Names W. Poos as 1956 Chairman

By WALTER C. SMITH
Croplife Editorial Staff

BALTIMORE—F. W. Poos, editor the Journal of Economic Entology, Washington, D.C., was named irman of the Eastern Branch, Enological Society of America, at group's 27th annual meeting here v. 21-22. He succeeds Ellsworth H. eeler, University of Massachuts, Amherst.

New vice chairman of the branch C. C. Alexander, Geigy Agricul- Chemical Co., Bayonne, N.J. F. Driggers, Rutgers University, w Brunswick, N.J., continues as retary-treasurer. Bailey B. Pep-, Pennsylvania State University, iversity Park, was renamed East- Branch representative on the erning board of ESA.

Registration at the two-day meet- totaled 255. Attending were U.S. partment of Agriculture, state uni-sity and state agricultural experi-nt station entomologists and re-rch workers, as well as represen-ives of industry and the armed ces.

t was announced that the 1956 nch meeting will be held Nov. 20 at the Haddon Hall Hotel, At-tic City, N.J.

Vegetable, cereal and forage in-ts and controls were topics of ers presented at a Nov. 21 ses-n. Physiology and toxicology were cussed concurrently at another sion the same day. In the evening, informal discussion was held on eet tree and home yard insect pest trol problems. The Nov. 22 morn- session concerned ornamentals l taxonomy. Fruit, medical and erinary phases were taken up at final session on Tuesday after-on.

The Monday morning general ses-n was presided over by Mr. eeler. He told the group that after king through the program for the rent sessions he noted the absence anything about the Miller Bill and apparent emphasis on chemicals d insecticides. This led Mr. Wheeler question the purpose of the group d ask if it was becoming a "chemi- society." Members were requested think seriously about the situa-n.

George C. Decker, president of the tional society, addressed the East-Branch members on matters per-ning to finances, membership, elec-n of officers, publications and the posed general revision of the so-ty's constitution. Dr. Decker said t a balanced budget was likely s year and he confirmed the sound ancial condition of the national so-ty. He urged an expansion of mem-rship to include some 1,000 ento-logical workers not now ESA mbers. The participation of indus- in becoming sustaining associate mbers of the society was gratify-, he said.

Discussing the society's publica-n, Dr. Decker expressed the hope t more members would take ad-ntage of this service. He announced blication of the society's first bro-ure, titled "Opportunities in Pro-sional Entomology." The brochure s prepared by a nine-man commit- and edited by C. M. Nichols, head the writing section of the publica-ns branch, Information Division, ricultural Research Service, U.S. partment of Agriculture, Washing-, D.C.

Committee members were P. J. apman, head of department of en-nology, New York Agricultural Ex-iment Station, Geneva; Stanley eeborn, provost, University of Cali-nia, Davis; David G. Hall, chief of publications branch, Information vision, Agricultural Research Serv-U.S. Department of Agriculture, shington, D.C.; Ralph Heal, execu-tive secretary, National Pest Control Assn., New York; Ephriam Hixson, chief of agriculture, South Dakota State College, College Station; T. H. Parks, extension entomologist, Ohio State University, Columbus; Lee Popham, chief of plant pest control branch, Agricultural Research Service, U.S. Department of Agriculture, Washington, D.C.; M. P. Jones, extension entomologist, Federal Extension Service, U.S. Department of Agriculture, Washington, D.C., who was chairman of the committee; and the late E. R. Sasscer, former head of the Division of Plant Quarantine, Bureau of Entomology and Plant Quarantine, U.S. Department of Agriculture, Washington, D.C.

Dr. Decker indicated that the proposed general revision of the society's constitution would, in all probability, be held off for another year to permit a thorough study of the anticipated changes. He cautioned members about hasty changes.

Robert H. Nelson, ESA's new executive secretary, was introduced to branch members and he spoke briefly. Bailey B. Pepper, Eastern Branch representative on the governing board of ESA, also presented his report at the Nov. 21 morning session.

The Monday morning program included showing of two motion pictures in color. A 15-minute color film on mist blower spraying for control of nursery plant pests was presented by Clyde C. Hamilton, Rutgers University, New Brunswick, N.J. It illustrated features of a mist blower in addition to showing the blower in use on various nursery crops.

"Beating the Weevil" was the title of a 21-minute color film presented by Walter E. Dove, Fairfield Chemical Division, Food Machinery and Chemical Corp., Baltimore. The film concerned application techniques of Fairfield Chemical's grain protectants on corn and other grains in processing and storage.

Papers presented at various sessions covered a broad area of insect studies and insecticidal investigations. A number of the papers discussed relationships between insects and the spread of certain plant diseases; application methods of insecticides, and references to insect tolerances for insecticides.

GOOD CORN YIELDS

LEXINGTON, KY.—Corn yields in Mercer County, Ky., were good where farmers followed the county agent's recommendation on testing the soil and applying fertilizer, W. B. Howell, county agent reports. John Buster got 100 bu. an acre from 30 acres, following an application of 300 lb. of ammonium nitrate an acre. Curtis Woods shucked 90 to 100 bu. an acre where he applied 700 lb. of 3-12-12 and 300 lb. of ammonium nitrate an acre.

ON SCHEDULE

ESCAMBIA BAY

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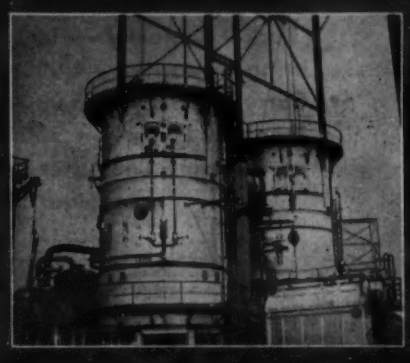

Primary gas reformer units which are the heart of the process where natural gas is cracked to hydrogen.

Gas purification section where the main gas stream is freed of carbon dioxide and carbon monoxide in order to insure feeding a pure nitrogen-hydrogen gas stream to the converter.

Three storage spheres, with a total capacity of over 6,000 tons of anhydrous ammonia.

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READER VIEWS

To the Editor:

Many experienced observers cannot support the implication made in your article "Acre Allotment Failure Seen in Big Cotton Crop" (Croplife Nov. 14, 1955), that 1955 cotton acreage allotments were seriously exceeded.

In the more than 30 years I have regularly traveled over the South I believe I have developed some knack of determining before harvest whether the cotton crop is to be generally poor, good or excellent. Long before harvest of this year's crop was in full swing it became evident that yields per acre were likely to be the best of record.

If you could make spot checks in many localities, particularly in Alabama, Tennessee, Mississippi, Louisiana and Arkansas, you undoubtedly would find many farms which this year have made 1 to 2 bales per acre where in previous years a bale per acre has been a rarity.

Admittedly, this year's average per acre cotton yield falls in the category of "Believe It or Not." But here are some likely reasons for it.

1. Allotted acreage per farm being reduced so low permitted the use of each farm's best land for cotton.

2. Three or four dry years in a row permitted a high percentage of unused plant food to be carried over from year to year. Thus, with generally ideal weather conditions prevailing this summer this residual plant food, together with that applied this year, teamed up to make perhaps the heaviest amount per acre of plant food on record available for the crop.

3. Insect control evidently was more nearly perfectly administered this year than ever before.

4. Better varieties were more generally used.

5. The late spring record breaking cold snap could conceivably have played an important part in keeping insects under control, certainly in the early stages of cotton growth.

6. More and more inefficient, marginal cotton farmers are getting out.

Since the last paragraph in your article is based on assumption, may we likewise indulge? If the average cotton acreage allotment has been, as you suggest, exceeded "possibly as high as 10 to 20%" then it would seem that the majority of the cotton farmers have been guilty of deliberately cheating. It is inconceivable that that high a percentage of cheaters can be found among cotton farmers, wheat farmers or any other American group. True, there have been some cases of unintentional overplanting. Even so, these innocent overplantings represent an insignificant acreage total.

Thus, if there had been a 10 20% total overplanting of allo cotton acreages it could have b accomplished only by the perfo ances of that minority among co farmers who are cheaters. It is l cal to assume that such individ each would have had to overp their allotments maybe 30 to 5 in order for the total overplan to have exceeded actual total a ments by 10 to 20%. Knowing fa ers as I do, I doubt if any one far could have overplanted his allotm even as much as 20% without being reported to control officia

Thank you for this opportunity expressing myself.

—W. H. Appleton,
Southern Sales Manager,
Potash Company of Americ

EDITOR'S NOTE: The above le was received by John Cipperly, C life's Washington correspondent, a reply to his cotton production s which appeared in the issue of N 14. Mr. Cipperly then showed Appleton's letter to the man who provided the material for the ar in question, asking for his comm

This news source, who is held high regard for accuracy of his c forecasts during recent years and enjoys high standing as a statistic granted that yields per acre are new high this year. However, he firmed that the acreage must larger than was estimated ear just as the 1951 acreage was sma than was estimated. All of his d he said, point to lower yields t are indicated from production acreage estimates, so the ans must be found in the use of m acres than were estimated for cot

Points made by both Mr. Apple and the Washington news source of significance to the plant food dustry. We thought that comme from these two experts would perspective to the current proble of cotton overproduction.

New
PAYLOADER®
Model HAH
Bucket Capacity — 1 cu. yd.
Lifting Capacity — 4,000 lbs.
Carry Capacity — 3,000 lbs.
Breakout Force — 4,500 lbs.
Torque Converter Drive
Power Steer

Which best fits your needs?

New
PAYLOADER®
Model HA
Bucket Capacity — 18 cu. ft.
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Carry Capacity — 2,000 lbs.
Breakout Force — 3,000 lbs.
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Now, Hough, the pioneer and leader in the tractor-shovel industry, gives you a choice of two new, more productive "PAYLOADER" units. Both have front-wheel-drive and rear-wheel-steer — especially designed for stockpile work and fast material moving in close quarters. They're the finest of their type in Hough history — they're both way ahead of the field in design, performance and all-round value.

FEATURES of these outstanding new models include: 40° bucket tip-back at ground; torque converter drive; full-reversing transmissions; closed, pressure-controlled hydraulic system; large hydraulic brakes; accumulator in hydraulic system that prevents pressure shocks and facilitates bucket control; power steer on model HAH.

Your nearby "PAYLOADER" Distributor is eager to show what these new machines can do for you.

Use the coupon below to get full information on any "PAYLOADER" model

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Sexauer Co. Named Distributor of Dow Agricultural Chemicals

BROOKINGS, S.D. — The Sexa Co., of Brookings, S.D., whose o ations include North Dakota, So Dakota, Minnesota, Iowa and braska, will sell the Dow line of a cultural chemicals, according to announcement issued jointly by Dow Chemical Company, Midla Mich., and the Sexauer firm.

North Dakota sales will be h dled by the New Day Seedsman vision of the firm. Sexauer's p cipal business is in grain, seeds agricultural chemicals.

Kansas Fertilizer Conference Planned

MANHATTAN, KANSAS — Kansas Fertilizer Conference wil held Dec. 12-13 at Kansas State lege here, with registration star at 1 p.m. Dec. 12 in Waters Hall

Dr. R. L. Cook, head of the M igan State University soil science partment, will be the principal spe er at the banquet. The meeting gram will include summaries of sults which have been obtained college fertilizer trials during 1 Reservations should be made dire with the Wareham or Gillett hote

Joins Towner

SANTA ANA, CAL. — Harry Myers, former president of Cl Gear Works, Cleveland, Ohio, has come associated with Towner Ma facturing Co. here as a partner general manager. The firm, ma facturer of farm tillage and mater handling equipment, makes a chine designed to pressure feed li fertilizer directly undergound du harrowing.

Special Retail Section

Better Selling

Richer Fields for Dealers

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

Anhydrous Ammonia Sales Help Texas Dealer Double Business in Three Years

By JESS F. BLAIR
Croplife Special Writer

From a farm implement dealer with his back to the wall three years ago, Van Dell Ball of Lamesa, Texas, has now become one of the biggest fertilizer dealers in West Texas. A changing farming pattern helped some, but mostly it was by his own efforts that he saved his business, doubled its size and is piling up a nice profit.

Back in 1951 the fields of Dawson County were just as bare in August as they had been in April. No crops were made for the second straight year, businesses were failing and the feed stores and implement houses were hit hardest of all.

Mr. Ball, an ex-farmer who had been in business only a few years, was selling very little. Farmers were not buying any new equipment and many of them could not meet payments on existing notes. He tried to figure a way out; and since there wasn't much to do at the store, he did a lot of driving and talking to farmers.

He had seen irrigation come to the county, slowly at first and then with an accelerated pace. Mr. Ball had farmed the sandy soils of the county and he knew they were not too fertile, even with water. From his gardening experience he knew fertilizers would pay good dividends under irrigation.

This, he came to realize, was a way he could help the farmers and himself at the same time. He went out after the area dealership for anhydrous ammonia. Starting with only a small amount, he then tackled the double tough job of selling it to the cotton growers of the area. To do this, he again went out to the farm houses, and finally got several farmers to try small plots in their fields.

Sales were slow at first, then they began to snowball until now his two big rigs are kept busy day and night, and he can't keep up with orders. This year he did custom application on about 6,000 acres of cultivated land in a three-county area. He estimated the anhydrous he will put out to be around a third of a million pounds.

In addition to this, he also sells equipment for spreading it and supplies two or three other smaller dealers. Altogether the total sales will run much higher than the figure quoted.

In speaking of his experience, Mr. Ball said: "Selling fertilizer was about all that saved me from quitting business. Since then we have made a little dryland crop, and of course the irrigation has really spread in the last two years."

Mr. Ball has utilized several methods of selling fertilizer. One of the best, he thinks, are the test plots which he still uses. He keeps an accurate record of the amount of fertilizer used on these plots, takes pictures during the growing season to compare with parts of the field not fertilized, then gets the correct figure on production.

In regard to the pictures, he has a large pictograph on which he shows

(Continued on page 13)

TEXAS DEALER—Van Dell Ball, Lamesa, Texas dealer, is shown above beside one of his pickup trucks with its prominent lettering. He sells fertilizer by go-getting methods, by advertising and by keeping track of what his products are doing for farmers. Although his initials are C. V., everyone in the area calls him Van Dell.

SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN

It's best not to spread your advertising budget over too many media. Don't buy little pieces of advertising in many places.

That's the advice of a prominent advertising man, Arthur C. Kammerman, of Batten, Barton, Durstine & Osborn, Inc., New York, in a speech he made at the recent convention of the National Pest Control Assn. in Denver.

A dealer should know his home town well enough to tell whether newspaper, radio, billboard or direct mail advertising is the most effective, Mr. Kammerman said.

"Regardless of the media you select, don't buy little pieces of advertising in many places. Instead, spend at least one-half of your advertising budget in the same spot whether it be newspapers, radio, etc. Concentrate your advertising during peak business seasons. And don't forget that advertising takes time. You have to repeat and repeat and repeat."

An advertising budget spent on miscellaneous items, except for blotters and calendars which have a utilitarian value, is wasted, Mr. Kammerman said.

A small display advertisement in the yellow pages of telephone books is suggested but by no means should a dealer spend most or all of his advertising dollar there, he said.

"Don'ts" listed by Mr. Kammerman are: Never, never knock a competitor because it destroys public confidence in your industry; emphasize benefits consumers realize from advertised services; refrain from using grim jests that are in bad taste or imply criticism of another profession or industry; quit emphasizing your size, which doesn't mean a thing to your customer, rather promote those beneficial services which will interest him; don't use 'junk' direct mail folders peddled by itinerant salesmen for these items imply you have nothing important to tell people about your own service; and don't use big, black bold type in your ads.

The "do's": Have your advertising talk of benefits that require a 'professional' like yourself to provide; make it positive, not negative by telling clients how you can save them money, raise their sanitary standards, etc.; use confidence building words that point out your service is clean, odorless, scientific, etc.; employ pictures that create a professional atmosphere; or use your own photograph, for this gives people confidence in your firm and establishes a friendly bond between you and the reader.

"One last point to remember," Mr. Kammerman concluded, "you cannot counteract a seasonal business slump by just advertising. You have to offer the customer some specific benefit for calling you. Otherwise, this type of 'wishful' advertising is just a waste of money."

Model Lawn Brings Added Sales to Florida Store

The Kilgore Seed Co. in Sanford, Fla. found that a lush green lawn between the sidewalk and the street curb in front of the store attracted much attention, brought in customers and resulted in additional sales.

Homer Osborne, store manager, and Jack Martin, assistant manager, use the strip to demonstrate how proper management can produce results.

"That grass demonstration plot is really valuable to us," reports Mr. Martin. "It starts people to talking about lawns, seed, fertilizer and insect control problems. It has increased our store traffic, and we've been able to make sales of other items as well."

Most of the store's fertilizer business is done with home gardeners who buy upwards to 1,000 pounds during the year. Seeds, however, are sold to both home gardeners and to larger vegetable growers in the region. The store has a large stock of insecticides, pesticides and fungicides on hand.

Because of the sunny climate, Mr. Osborne and Mr. Martin take advantage of outdoor display of seasonal items. This type of display pays off, says Mr. Martin, because it catches the attention of much street traffic. The firm has a neat bench outdoors all year around, for customers to sit and chat. Sometimes some very interesting discussions on seeds, fertilizers and equipment take place here between customers, Mr. Martin reports.

Sanford is in the heart of a large vegetable producing region. Due to a three season crop on some types of vegetable, the seed, feed and fertilizer stores have a long selling period on many items, a fact which helps to swell annual volume.

Besides calling on many of the vegetable growers in the area and learning their problems at first hand, Mr. Osborne and Mr. Martin also cooperate with the 4-H clubs. The store frequently contributes to the prize list of such clubs, thus encouraging the youngsters in their work. Many of these club members grow up to become top notch vegetable growers, with buying associations developed with reputable firms.

Growers in the area are also offered a soil testing service at this store. Some of the samples are sent to the state agriculture department, and some soils are tested immediately for acidity, right at the store.

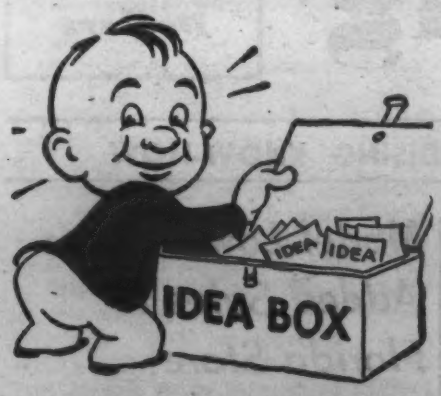
Alabama Soil Fertility Society Plans Meeting

MONTGOMERY, ALA. — The annual meeting of the Alabama Soil Fertility Society will be held Dec. 8-9 at the Whitley Hotel here.

TEXAS COTTON ACREAGE

COLLEGE STATION, TEXAS — The Texas allotment for unpaid cotton in 1956 is 7,410,893 acres. This is a 201,886 acre reduction from the 1955 allotment of 7,612,779 acres. On July 1, 1955, 6,984,000 acres of upland cotton were being cultivated in the state.

Better Selling
Richer Sales Fields for Dealers



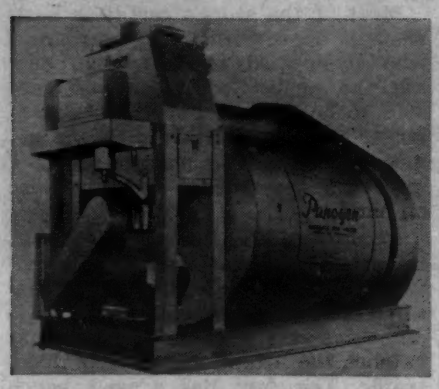
What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5341—Seed Treater

The model KS-5 is a new automatic seed treater for the application of Panogen liquid seed disinfectant, it has been announced by Panogen, Inc. The model is designed for liquid seed treatment of wheat, oats, barley, flax, cotton, etc. V-belts have been



replaced by a new roller chain drive and speed reduction gear. The only V-belt used drives a fan which removes dust and fumes. The treater employs a modified "dip" measuring device. The model is rated at 350 bushels per hour capacity. Dimensions are: Height 43⅛ in., length 51⅛ in., width 32⅛ in. Secure more complete details by checking No. 5341 on the coupon and mailing it to Feedstuffs.

No. 6350—Liquid Feeders

The problem of reducing encrusted gypsum in phosphoric acid feeding equipment in the continuous production of triple superphosphate through the use of the trade-named product, the Omega Rotodip liquid feeder is described in a 12-page reprint just issued by the Omega Machine Co., a division of B-I-F Industries, Inc. Contents of the reprint, written by Andrew A. Melnychuk, are titled, "Continuous Processing Equipment for the Fertilizer Industry." All components of the feeder, including the dipper wheel, are designed with straight sides and flat surfaces. Eliminated because of the necessity of a recirculating system with the Rotodip liquid feeder, is the need for a float valve which increases the possibility of gypsum crust formations, the company announcement states. The reprint contains four new flow diagrams in addition to technical data and installation photos showing the Liquid Feeders in recently developed continuous processes. Secure the reprint by checking No. 6350 on the coupon and mailing it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 5319—Magnetic Chute

A new zig-zag magnetic chute for processors of non-metallic minerals is in production by Prater Pulverizer Co. Designed for gravity flow of ground or finely crushed products, these chutes are said to be capable of removing not only the occasional nut or bolt, but the fine slivers of metal which normally wear off processing machinery. Each chute as-

sembly contains two heavy duty permanent magnetic separators and the chutes are so constructed that the material first passes across one magnet, then completely reverses its direction of travel to pass across the second magnet. This construction insures double protection against tramp metal and is adaptable to either inclined or vertical material flows. They are available in sizes ranging from 8 in. to 48 in. wide. Standard equipment is of carbon steel, however stainless steel is also available. For further information check No. 5319 on the coupon and drop it in the mail.

No. 6348—Garden Book

The California Spray-Chemical Corp. has released its 1956 edition of the Ortho garden book. The book gives recommended treatments of insecticides and fungicides for insect pests and diseases. Liberally illustrated, the book has close-ups of plant pests and troubles. Information is presented in non-technical terms for the gardener, the company announcement states. Included in the book are plans for a practical garden structure. The book may be secured by checking No. 6348 on the coupon and mailing it to Croplife.

No. 6347—Fire Alarm System

The Seedburo Equipment Co. announces a new fire alarm system which is recognized by the Mill Mutual Fire Prevention Bureau. The system, called the Secoalarm, is said to be easy to install, and utilizes a sensitive thermostat. The company announcement states: "The Seco alarm, because of its simplicity, can be installed by any competent electrician or by any good mechanic if a competent electrician is not available, unless, local ordinances or codes require otherwise." The alarm is said to have an audibility range of approximately one quarter mile. To secure additional information check No. 6347 on the coupon and mail it to Croplife.

No. 6341—Storage Tank Liners

A brochure has been prepared by the Flexi-Liner Co. on its storage tank liners, called by the trade name Flexi-Liners. According to the brochure, the liners are liquid-tight, flexible cylindrical sacks made of special plastic sheeting. The large bags are for installation inside storage tanks to prevent corrosion of the tank and to protect contents from iron contamination by the tank. Secure the brochure by checking No. 6341 on the coupon and mailing it to this newspaper.

No. 6334—Loader

A new and larger two-wheel-drive "Payloader" tractor-shovel, model "HAH," has been announced by the Frank C. Hough Co. The model, which has a struck capacity of ¾ cu. yd. and a heaped capacity of 1 cu. yd., incorporates all of the features of the smaller "HA" model which was introduced last February. One feature is the bucket breakout action which permits 40° of tip-back at ground level. The new model "HAH" has a breakout force of 4,500 lb., a lifting capacity of 4,000 lb. and a carrying capacity of 3,000 lb. at 4 m.p.h.

Especially designed for stockpile work, this new unit has a short turning radius and rear-wheel power steering. The high lift of 7 ft. 9 in. enables it to load trucks or elevated hoppers. Secure more complete details by checking No. 6334 on the coupon and mailing it to this publication.

No. 6342—Plastic Drum Faucet

A polyethylene plastic drum faucet has been introduced by the Multi-Meter Corp. Designed to fit all ¾ in. standard drum openings, this new full-sized faucet is claimed to be durable and light weight. Polyethylene construction prevents reaction with strong acids, alkalies, oils, etc. Secure more complete information by checking No. 6342 on the coupon and mailing it.

No. 5309—Accounts Receivable

"Simplified accounts receivable for retailers" (SARR) is described in an 8-page folder released by Remington Rand. Based on the company's "sim-

Send me information on the items marked:

- ☐ No. 5319—Magnetic Control
- ☐ No. 5309—Accounts Receivable
- ☐ No. 5321—Catalog
- ☐ No. 5341—Seed Treater
- ☐ No. 6334—Loader
- ☐ No. 6341—Tank Liners
- ☐ No. 6342—Drum Faucet
- ☐ No. 6344—Lawn Machine
- ☐ No. 6345—Transport Unit
- ☐ No. 6346—Potash Handling
- ☐ No. 6347—Alarm System
- ☐ No. 6348—Garden Book
- ☐ No. 6350—Liquid Feeders

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept. Minneapolis 1, Minn.

fied unit invoice accounting plan" (UIAP), "simplified accounts re-vable for retailers" uses no ac-unting machines and requires no hly trained clerks. It is claimed provide a complete, accurate and t method of handling accounts re-vable. The method uses Reming-Rand's Kolect-A-Matic trays, sed in Safe-Ledger equipment for hour protection from fire, and pro-es an accounts receivable ledger posed of open, unpaid items only, monthly statement for each cus-mer, and a history of each account. ure literature on this method by ecking No. 5309 on the coupon and iling it.

o. 6344—Lawn achine

Franchises are now available to lers for a new machine, called by trade name, Lawnscaper, an-nces the manufacturer, Lawnscape rporation of America. It is claimed perform the numerous lawn care ctions previously done by hand or several machines. Franchise rights

clude exclusive right to work in a rritory of approximately 10,000 pop-ation. Rights also include basic aterials with which to service 50 erage size lawns, the company an-uncement states. The machine's sic unit is a 24-in. dual rotary pe mower. A rack attachment can ld four fibre drums for seed, fer-lizers, weed killers, insecticides and ub killers. The entire system can controlled from the driver's seat. lso available is an aerator set and a ter filled roller. Secure more com-ete details by checking No. 6344 the coupon and mailing it to roplife.

o. 6346—Potash andling

Field Report No. 227 from Sauer-an Bros., Inc., describes the han-ing of potash in indoor storage at arlsbad, N.M., by scraper storage achine. The report is illustrated ith layout drawings and pictures hich show the plants of two major otash producers. To secure the re-ort check No. 6346 on the coupon nd mail to Croplife.

o. 5321—Catalog

The Chantland Manufacturing Co. as available a new catalog describ-g its conveyors and allied products. he catalog includes a complete price st, fact sheets as well as numerous lustrations and product descriptions. he company's conveyors, called the lton line, are available for handling wide variety of materials in sacks, les, boxes and in bulk. Conven-onal conveyors, as well as wheel nd roller units in straight and rved models are described in the atalog. Secure the catalog without harge by checking No. 5321 on the oupon and mailing it to this publi-ation.

o. 6345—Transport nit

Schelm Brothers, Inc., announces he production of its new nitrogen olution transport unit which consists f a 500-gal. aluminum pressure tank nd skid mounted on a two-wheel trailer. The trailer is constructed to handle a three-ton load and may be equipped with electric brakes if desired. A spray boom is available for non-pressure type solutions. When used as a nurse tank, hoses and fittings are available for either dip tube or bottom withdrawal of solutions. A small compressor and gasoline engine mounted on the trailer supply the air pressure. Complete information and prices are available by checking No. 6345 on the coupon and mailing it to this newspaper.

HEADS COUNTY AGENTS

NEW BRUNSWICK, N.J.—Robert R. Windeler of Great Notch, N.J., agricultural agent in Passaic County, is the new president of the New Jersey County Agricultural Agents' Assn.

Georgia Plant Food Educational Society Plans Annual Meeting

ATHENS, GA.—The annual meeting of the Georgia Plant Food Educational Society will be held beginning at 1 p.m. Jan. 17 at the University of Georgia here, according to Dr. Fielding Reed, American Potash Institute, Atlanta, secretary-treasurer. The meeting will be held jointly with the Georgia section of the American Society of Agronomy. The program of the agronomists will continue on Jan. 18.

According to Dr. Reed the program of the plant food group will include: A discussion of the functions and future of the newly reorganized Fertilizer Division of the Georgia Department of Agriculture by Phil Campbell, Georgia commissioner of agriculture.

A talk, "Tools for Selling Fertilizer," by W. R. Allstetter, vice president of the National Plant Food Institute, Washington.

A discussion of the activities of the society and of plans for the coming year.

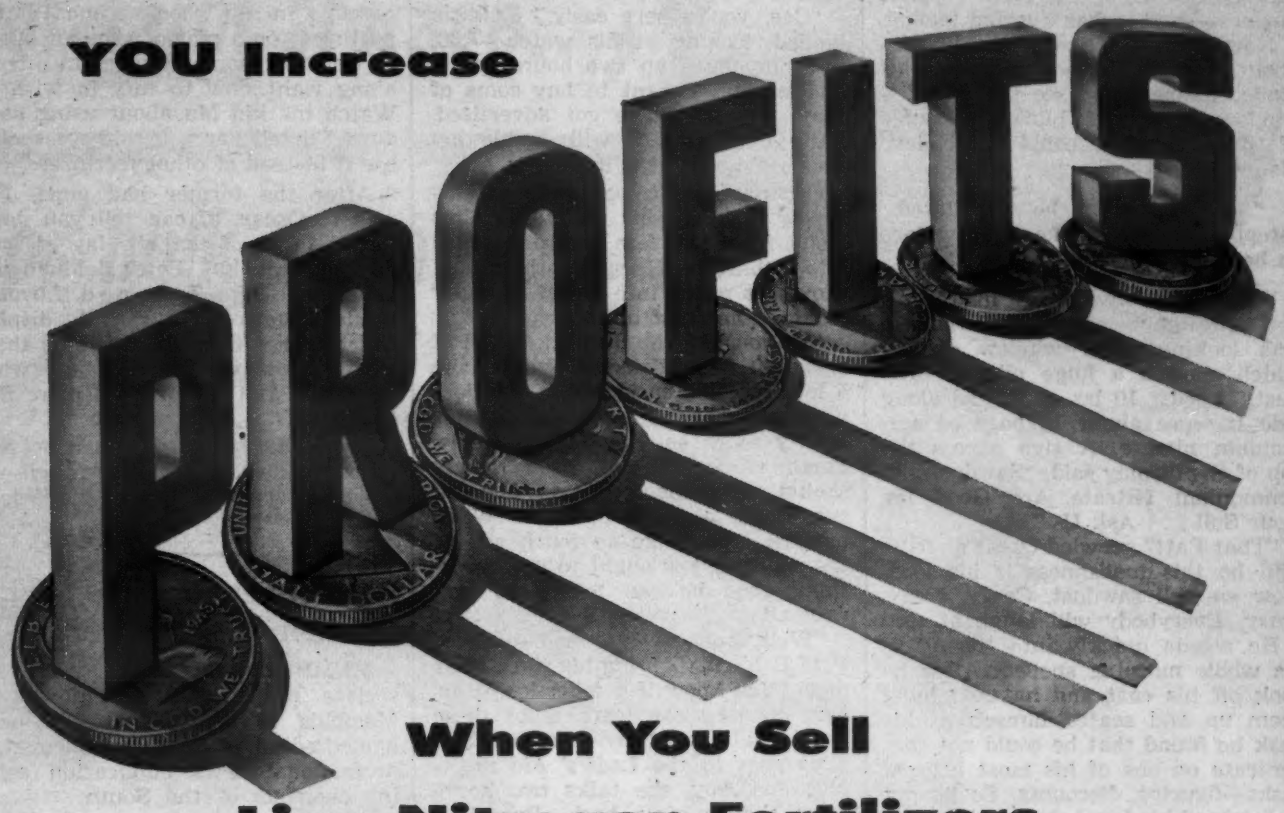
A talk by Dr. M. B. Russell, head of the University of Illinois agronomy department, to be given at the banquet the evening of Jan. 17.

Dr. Reed reports that the society now has 334 members compared to 303 in 1954.

SOIL SAMPLES

LEXINGTON, KY.—More than 2,000 soil samples have been tested in Fleming County, Ky., this year and nearly 9,000 in five years.

YOU Increase



When You Sell

Lion Nitrogen Fertilizers

Because The LION Brand Is Pre-Sold

HERE'S THE LION LINE-UP OF QUALITY NITROGEN FERTILIZER MATERIALS

Lion Anhydrous Ammonia—82.2% nitrogen. Quality guaranteed.

Lion Aqua Ammonia—Ammonia content about 30%—other grades to suit your requirements.

Lion Ammonium Nitrate Fertilizer—Improved spherical pellets. Guaranteed 33.5% nitrogen.

Lion Nitrogen Fertilizer Solutions—Various types to suit your particular manufacturing needs.

Lion Sulphate of Ammonia—White, uniform, free flowing crystals. Guaranteed 21% nitrogen.

Retailers who market Lion nitrogen fertilizers are enjoying sales increases and expanding profits, because the Lion brand is being continuously *pre-sold* to farmers—and retailers reap the benefits.

Throughout the year, Lion advertising appears in leading state farm publications, and in Farm & Ranch-Southern Agriculturist, Prairie Farmer, Progressive Farmer, and Wallaces' Farmer & Iowa Homestead. These advertisements tell farmers—again and again—the *facts* about plant foods: that the farmer who uses the proper kinds and amounts of commercial fertilizers will increase his yields and his profits. This advertising sells fertilizers, for Lion and for *you!*

Lion's two giant chemical plants have the capacity to assure you a steady supply of the most popular and economical types of nitrogen fertilizers. In fact, Lion is the world's largest manufacturer of prilled ammonium nitrate, and one of the industry's leaders in producing other nitrogen fertilizer materials.

It's easy to sell nitrogen fertilizers with the Lion emblem on the bag, or Lion's anhydrous ammonia. And easier selling adds up to *more profits for you.*

DISTRICT SALES OFFICES: NATIONAL BANK OF COMMERCE BUILDING, New Orleans, La. • SHEPHERD BUILDING, Montgomery, Ala.

LION OIL COMPANY
A DIVISION OF MONSANTO CHEMICAL COMPANY
EL DORADO, ARKANSAS

There was heavy frost on the grass, trees and roofs when Oscar Schoenfeld came to work that early December morning. True to habit, he inserted his key into the front door lock at 6:45 a.m., for it was one of the pleasures of his frugal life to get to work 15 minutes before his partner and their employees. Getting to work so early gave Oscar a superior, paternal feeling. It was on such occasions, striding around the office all by himself, that he felt as if he were the sole owner of the farm supplies business—and it was a grand feeling.

Now, with the door open, he was about to enter the building when his glance happened to see the adjacent window display. He blinked a couple of times, as if he could not believe his eyes.

"Ach Himmel!" he ejaculated, stepping closer to the window for a better look. "What is this?"

What Oscar saw caused his face to get quite white, then a dull red. He was looking at a window display which showed a huge pile of sawdust, at least 10 bu. of it, and along side it were about 10 bags of ammonium nitrate. A sign across the top of the display said, "Sawdust and Ammonium Nitrate Are Good for Your Soil . . . Ask Us."

"That Pat!" growled Oscar angrily. "I'll be this foolishness is his idea. Now we sell sawdust. Crazy, crazy, crazy. Everybody will laugh at us."

He strode quickly into the office, his whole morning spoiled. After he took off his coat and hat and hung them up and seated himself at his desk he found that he could not concentrate on one of his most beloved tasks—figuring discounts. So he got up, clasped his hands behind his back and strode back and forth, talking to himself.

"For three days now, things went along smoothly," he moaned. "No extra advertising, no sales promotions, no crazy ideas. Now this! I should have known it. Pat said he was coming down after supper last night to work. Someday—I'm going to sell out and go into business for myself. I have had just about enough of this partnership. I—I—" Oscar lapsed into mere thought, and not words.

Over the years of his partnership with genial, easy going, likeable Pat McGillicuddy, the frugal Oscar had told himself at least 15 times a month that someday he would strike out for himself. But he never did; he was afraid. Somehow, despite Pat's free use of money on sales promotions, Oscar felt intuitively that he needed Pat. They made a good team, one a miser, the other a spendthrift. They balanced each other, but at a terrific cost in anger, ruffled tempers, and they had also given faithful, plump Tillie Mason, the bookkeeper, a case of ulcers.

The door opened and Pete Baldwin, a farmer over Cedarville way, came in. "Hi, Oscar," he said, "what's the idea? You fellows sellin' sawdust now, eh? What's it for—bedding for roosters when they fight?"

Oscar choked. "I—I don't know anything about it. That—that's Pat's idea. Ask him."

Lanky, unshaven Pete Baldwin grinned. "So you guys fight, too, eh? I thought you were a couple of lovebirds, working together to make double the profit of any other business in town."

"Love birds!" Oscar glared. "There is no love around here, I can tell you. Ach, this is more like an insane asylum. Maybe the asylum would be better."

There was a whistle outside and tall, bushy-haired Pat came in, his blue eyes twinkling. "Hi, Pete," he said, cheerily. "Hi, Oscar."

"Gee, you're here early," Baldwin kidded, looking at his watch—7:30. I've only been up two hours and a half myself. I want to buy some of that sawdust you've got advertised, Pat. Oscar says it will double my corn yield next year if I use it."

Oscar's eyes popped wide at this heresy against his careful claims about fertilizer, then his lips merged into a thin line. He said nothing, just drove his pencil into a pad of paper so hard the point broke.

"So you like the display, eh?" Pat asked. "I figured that it would make a lot of people curious. Yes, sawdust will help make the clay soil of this county more aerable and workable. Small gardeners and also farmers should use as much of it as they can get. Don't let it go to waste. When modern crops take so much out of the soil, a fellow ought to use everything good he can to build soil values."

"Well, that's news to me," returned Pete Baldwin, lighting his worn briar pipe. "You know if a feller keeps his ears open he can learn a lot these days. That's what my wife says. She allus goes to the Ladies' Aid meetings and, boy, she talks two hours after she comes back. But, Pat, what's that ammonium nitrate got to do with the sawdust?"

Pat smiled. "I was hoping you'd ask that. Sawdust will temporarily tie up the nitrogen content of low quality soils while the sawdust is decaying. So if you just add 75 lb. of ammonium nitrate to each ton of sawdust applied, that will handle the nitrogen requirements of the area. It's worth it to make the soil more aerable, and the greater nitrogen content brings bigger crops."

"Are you sure about that, Pat?"

The fertilizer dealer grinned. "Yep. I got it from a long report on sawdust use by the West Virginia Department of Agriculture."

"Well," said Pete. "I gotta pile of sawdust in my woodlot, and I'll try putting it on a plot of ground. Might as well take some ammonium nitrate along right now to mix in with it. Watch me kid Ma about using sawdust. I'll tell her you said we should use it instead of other fertilizer."

After the farmer had gone, Pat said to Oscar. "I can tell you don't like the idea of that display of sawdust, Oscar, but Pete Baldwin reacted just like I hoped farmers would. They're curious. A display which makes them curious gets them asking questions which is just what we want. And it helps sell more fertilizer."

Oscar said nothing. He just pressed harder on another sharp pencil—so hard, in fact, that not only the lead broke, but the pencil, too.

Elton Fisher Named Southern Chemist Editor

MEMPHIS—Dr. Elton Fisher, associate professor of chemistry at Memphis State College, has been named editor of Southern Chemist, a professional news publication serving chemists of the South.

Dr. Fisher succeeds Robert Kemp of the University of Mississippi, who resigned to continue graduate studies.

The Southern Chemist is published jointly by American Chemical Society sections of Memphis, North Carolina, South Carolina, Alabama, Mississippi, Arkansas and Tennessee.

Agricultural Economist Foresees 45% Increase in Food Production by 1975

EAST LANSING, MICH. — Total production of and consumption of food will probably increase as much as 45% by 1975, according to an estimate made by Dr. James T. Bonnen, agricultural economist at Michigan State University.

Basing his estimates on present trends and an analysis of the cause of consumption changes in the past, Dr. Bonnen says these trends indicate an increase in U. S. population to 221 million by 1975, a labor force of 91 million people, an average work week of 35 hours, a 64% increase in labor productivity, a doubling of the national output of all goods and services and a 50% increase in disposable income.

His estimates of consumption of farm commodities are as follows:

Dairy products—Should increase at about the same rate as population. With the increase expected in production per cow, milk cow numbers will probably be upped only 7%.

Beef—Total consumption of beef and veal should increase by 45%. That means a boost in per capita consumption by 7½%. There will be an increase of 10% in beef output per pound of feed input.

Pork—Should increase by 35% without any boost in per capita consumption expected. With constantly improved breeding, average litters will increase by almost two pigs and pork output per pound of feed fed will increase up to 20%.

Non-citrus fruit (apples, pears, peaches, etc.)—Total consumption should increase by only 10%. That's the result of an 18% decline in per capita consumption.

At the same time the farm population is expected to decline by 32%—22 million to 15 million; the farm labor force to be reduced by 30%. Production per person on farms will at least double while the total agricultural output should increase by 45%, Dr. Bonnen says.

Fertilizer Gives Rice Yields Big Boost In Arkansas Test

FAYETTEVILLE, ARK. — Fertilizer experimentation on rice this season resulted in a record plot yield of 143.9 bu. per acre at the University of Arkansas' Rice Branch Experiment Station at Stuttgart, according to Dr. R. L. Beacher, associate agronomist for the Arkansas Agricultural Experiment Station.

In contrast to this outstanding harvest, a minimum yield of 57.1 bu. per acre was obtained from an unfertilized plot. The Bluebonnet 50 variety was used in the tests.

This season's experiment was conducted to test the value of various fertilizers and ways of managing irrigation water on typical old rice soil. Final results of the test, harvested by combine Oct. 18, indicated average yields of 63 bu. per acre on the unfertilized plots and 137 bu. from the best treatment. The last results were obtained from a treatment of 90 lb. diammonium phosphate and 140 lb. of urea used as a topdressing.

This was an average increase of nearly 120% resulting from use of adequate fertilizer and recommended watering and management practices. This yield increase of 74 bu. worth at least $115 as rough rice resulted from an investment of approximately $19 in fertilizer and application costs.

The highest yielding individual plot was treated with 266 lb. of urea fertilizer per acre as a top dressing on drained soil before the second watering. This was followed by an additional application of 500 lb. of 8-8-liquid fertilizer injected into the second irrigation water. However, average yield from four replications of this treatment was 125.2 bu. per acre, 11.8 bu. less than the average of the best yielding treatment.

Previously published results indicated that rice yields could frequently be doubled by proper use of nitrogen fertilizers. Potash and phosphorus were also used on soils where the need was indicated by soil tests. Thousands of soil tests from rice farms within the Grand Prairie and adjoining rice regions have shown the need for nitrogen on over 95% of the farms. Either potash or phosphorus was needed on nearly 80% of the fields.

Applications of most nitrogen fertilizers at heavy rates, over 80 lb. actual nitrogen per acre, frequently resulted in serious lodging and harvesting difficulties in tall varieties. In the experiments this season, the short Bluebonnet plants did not seriously lodge.

Nitrogen Boosts Yield, Hastens Maturity of Sorghum in Texas Test

COLLEGE STATION, TEXAS — Application of nitrogen hastened maturity and significantly increased yields of grain and forage of Redbine 66 grain sorghum grown under irrigation in an experiment conducted by the Lower Rio Grande Valley Experiment Station of Texas A&M College at Weslaco, Texas, and Rio Farms Inc.

Sixty pounds of nitrogen approximately doubled both the yield of grain and forage. Application of 60 additional pounds of nitrogen resulted in smaller yet significant increases in both grain and forage.

Plants receiving nitrogen began heading several days earlier than plants that did not receive nitrogen

Insect Control Pays $5 for $1 in Arkansas County

WYNNE, ARK.—Many Cross Coun- Ark., farmers are seeing the re- lts of a good insect control program th the completion of harvest of one the best crops in the history of e county, according to Troy Jen- gs, county agent.

According to farmer reports, an erage increase of 250 lb. an acre re lint cotton is being harvested ere a good boll weevil control pro- am was used. And, based on gin- rs and insecticide dealers' reports, % of the cotton farmers in the unty followed the University of kansas recommendations on con- olling insects.

About 123% more farmers used ontrol measures this year than did 1950. Out of the 39,874 acres lanted, 30,000 were scouted.

Estimated amount spent on insec- ides was $217,000. Mr. Jennings timates five dollars was received return for each dollar spent on in- cticides applied on a regular sched- e.

uwannee Bermuda hrives on Sandy oil in Southeast

WASHINGTON — Farmers intend- g to start pasture or hay production sandy soils in the Southeast that riginally grew scrub oak and pal- etto can profit by putting their reage in Suwannee Bermuda grass, e U.S. Department of Agriculture ivises.

Suwannee Bermuda, a new hybrid rass released cooperatively by SDA's Agricultural Research Serv- e and the Georgia Coastal Plain xperiment Station at Tifton, Ga., 1953, was among some 5,000 hy- rids observed and tested at the ifton station. It is designed to grow deep sands at moderately low fer- lizer levels. Palatability, plus re- istance to disease, frost, and drouth e Suwannee's chief merits. This ybrid will grow tall enough to cut r hay or silage.

In tests on drouthy, oak-ridge, andy soils, Suwannee out-performed oastal Bermuda, Pensacola Bahia nd common Bermuda. On such soils ith annual application of 50 lb. of itrogen or less Suwannee should roduce 10 to 20% more than its earest competitor, Coastal Bermuda, SDA said. Suwannee proved to be e most drouth resistant of the rasses studied, as well as the most fficient in use of nitrogen.

From fields treated with nitrogen at the rate of 50 lb. per acre, the researchers were able to recover 76% of the nitrogen in hay removed from the Suwannee plots; 67% from the Coastal and Pensacola Bahia, and only 25% from common Bermuda.

When the fertilizer rate was in- reased to 200 lb. of N per acre, uwannee retained the same 76%; oastal Bermuda, 65%, Pensacola ahia, 41% and common Bermuda, 3%.

Suwannee also proved superior in a -year grazing test on very sandy oils at the Florida State Experi- ental Range Cattle Station, Ona, here it produced 13% more beef er acre than either Coastal Ber- uda or Pensacola Bahia.

All fertilizer studies with grass eaffirm the fact that it not only ays to fertilize improved pastures, ut that farmers can't afford not to ertilize, USDA said.

TEXAS DEALER

(Continued from page 9)

the colored slides of cotton fields. When a customer comes to the store, he shows the pictures, explains how the fields were fertilized and cultivated and the final yields. Also for entertainment he sandwiches in some pictures of deep sea fishing for the customer's entertainment.

Mr. Ball believes in advertising, and practices almost every known kind. He has had spots on television, sponsors programs on radio and uses the newspapers. Another kind which he finds pays off are the numerous fairs and livestock shows in the area. His equipment is always in the commercial displays and he or one of his employees is ready to explain to anyone who comes by.

He letters all his trucks and pick-ups, attends all meetings, serves on the chamber of commerce and takes part in all civic enterprises. Wherever there is a farm or rural meeting of any kind, Mr. Ball is almost sure to be there, mingling with the crowd and making new friends.

"I didn't realize this would get so big," he said. "But the more I worked with nitrogen fertilizer, the more I realized its value to these sandy soils. As I became more enthusiastic, it must have carried over to the farmers, because we now have about as many orders as we can handle."

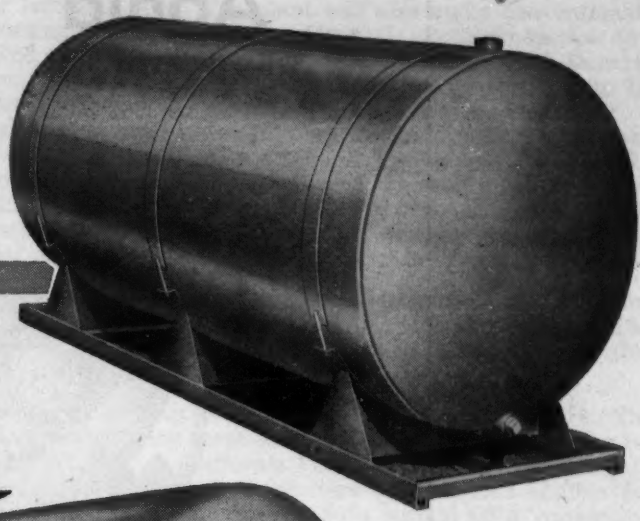
When asked what advice he would give to a new dealer, he said: "First, learn all you can about the products you sell. Find out what happened to it after it left your store. Did the farmer boost yields, did he make a profit, or did he apply it in the wrong way or not put down enough? Get the story on those sales and learn the farmer's problems, so you can be of service to him.

"Also don't sell something just to make a dollar. I've found out one business principle which I hope to practice always: If you can help the other fellow farm better or make more money, you'll find yourself sharing in those profits.

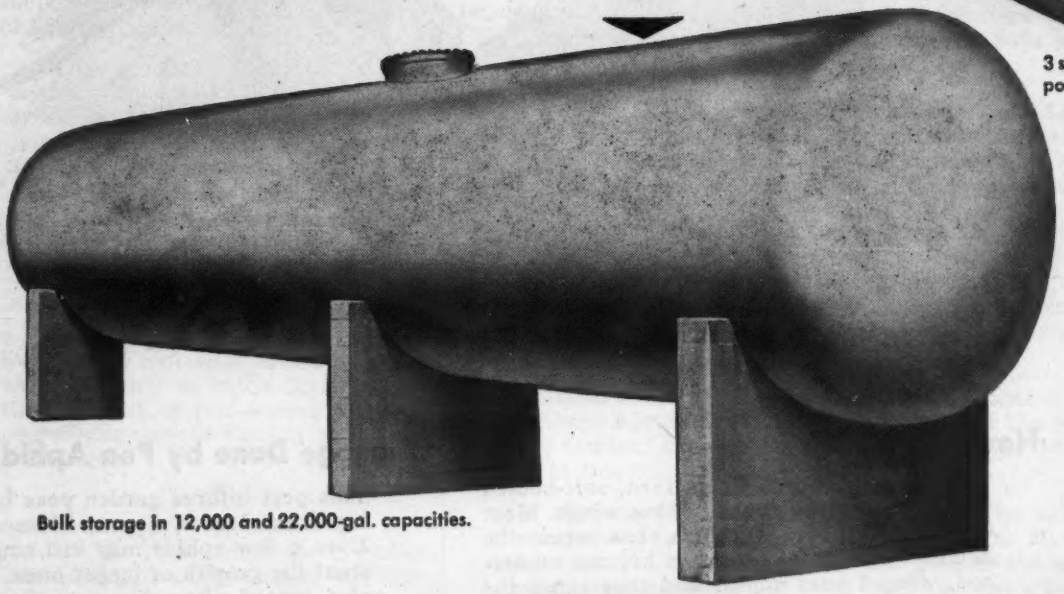
"Anhydrous ammonia is a needed product here. We've helped farmers make thousands more dollars with it. And in return we've made money, not only on fertilizer but in increased implement sales."

For farm storage...

For bulk storage....



3 sizes of skid tanks for transport. 5 sizes of farm tanks.



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Profit with BUTLER aluminum tanks for liquid nitrogen solutions

Not just any aluminum tanks—they're Butler. Get top quality low-pressure tanks—built and tested by Butler tank specialists—guaranteed by Butler. Each tank is engineered with superior strength in stress areas. And Butler supplies the sizes of low-pressure tanks your business needs. Bulk storage tanks in 12,000 and 22,000-gal. sizes. Skid tanks for transport in 500, 830, and 1000-gal. sizes. Rugged detachable skids have rubber lined straps to protect metal. Farm storage tanks available in 100, 270, 500, 830, and 1000-gal. sizes. Mail coupon now for complete information.

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Send me more information on the following sizes of Butler low-pressure aluminum tanks.

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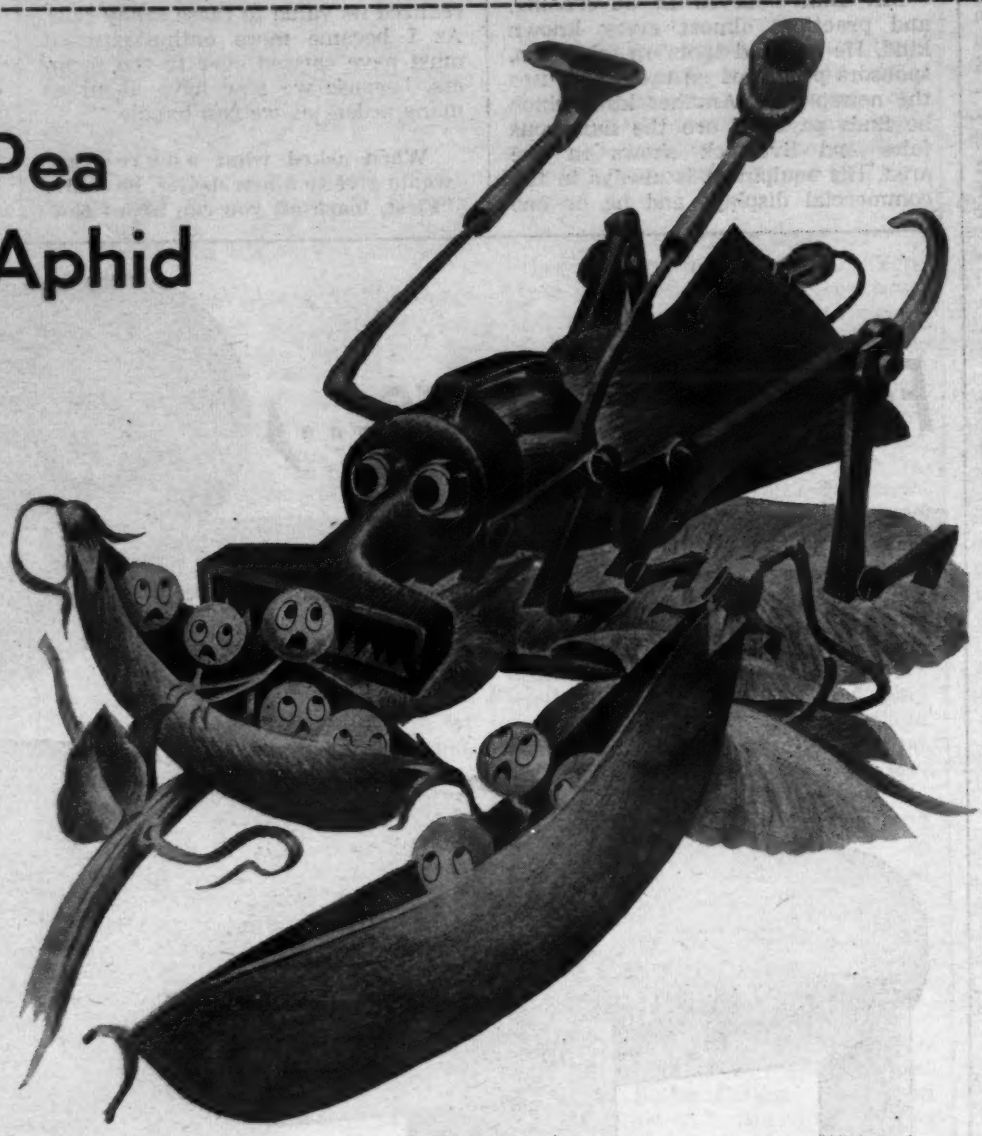
Address.....
City..... Zone..... State.....

BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Pea Aphid



How to Identify

The adult aphid is a light-green, soft-bodied insect that may or may not have wings. Most of the adults are wingless, but when the numbers of aphids on a plant become numerous, winged ones appear and thus cause the insect to spread to new points.

Habits of Pea Aphid

Winged aphids fly into the pea fields early in the spring and produce living young which look like the wingless adult aphids. These young nymphs molt four times and begin reproducing as adults in from 7 to 14 days. Females produce around a half-dozen a day and keep this pace until as many as 100 have been born. Generations of females number from ten to twenty each year. Females lay eggs mostly on the leaves and stems of alfalfa and red clover. Eggs measure about 1/30th of an inch in length and are light green in color at first. Later, however, they become black and shiny. In colder climates, only the eggs survive the rigors of winter, giving rise to next season's populations. Aphids have many natural enemies, but in cases where the activities of these enemies are checked, multiplication of aphids is described as being "phenomenal."

Damage Done by Pea Aphid

This pest injures garden peas by sucking the sap from leaves, stems, blossoms and pods. Even a few aphids may kill small plants and stunt the growth of larger ones. The pest may also spread virus diseases, thus causing further damage to the crop. Even when small numbers of aphids attack a crop, they affect badly the quality of the peas, thus causing economic loss. Aphids, being small, are sometimes overlooked and the injury they do attributed to other insects such as lady beetles which in reality are feeding upon the aphids.

Control of Pea Aphids

Various dust preparations are recommended for control of aphids. These include 1% to 3% DDT and 2% to 3% methylated naphthalenes; 0.5% to 1% gamma BHC; 4% nicotene; 0.5% to 0.75% rotenone and 1% to 2% paraffin-base oil; 0.5% to 1% parathion; and 0.5% actual tetraethyl pyrophosphate. In large fields, dust should be applied at 35 to 45 lb. an acre. Precautions regarding use of certain materials on peas to be used as animal forage should be observed. (Check state recommendations.)

Cartoon of pea aphid furnished Croplife through courtesy of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.

FARM SERVICE DATA
Extension Station Reports

A change in certain Agricultural Conservation Program practices affecting alfalfa seedings, for which farmers are eligible for payments, is noted by Virginia Polytechnic Institute agronomists.

The practices this year allow farmers to seed alfalfa either alone, or with orchard grass for additional rotation cover. Last year the specifications were for alfalfa and orchard grass.

The recommendation is for an application of a minimum of 1,000 lb. per acre of 2-12-12 or 4-12-12 borated fertilizer with a seeding of at least 20 lb. of an approved variety of alfalfa alone, or at least 15 lb. of an approved variety of alfalfa with 4 lb. of orchard grass per acre.

W. W. Lewis, VPI extension agronomist, says expanded acreage of alfalfa in Virginia is in line. There are 190,000 acres in Virginia. From the standpoint of an improved feed program, and wider uses of alfalfa as hay, silage, and pasture, another 100,000 acres should be seeded within the next few years, he says.

★

It takes high rates of fertilizer to make high yielding crops, according to W. R. Thompson, Mississippi extension agronomist. "Your soil is your crop production bank," he emphasized. "You will have to continue to deposit in the soil, if you are going to make high withdrawals."

Record per acre yields of cotton and corn this year resulted largely from following experiment station recommendations on fertilization and management. "Of course the weather is due a large part of the credit, but you won't find any record yields where farmers did not apply fertilizer," he said.

Now is the time for farmers to study the results of high fertilization, Mr. Thompson said. Then plans can be made for next year's production.

★

Two Bermuda grasses, Coastal and Suwannee, are thriving in the sandy soil of the Sandhill Experiment Station near Columbia, S.C. The popular grass is also doing well on other South Carolina farms, it was reported in South Carolina Agricultural Research, a quarterly publication of the S.C. Agricultural Experiment Station.

"To insure good stands and quick establishment of both Coastal and Suwannee Bermuda recommendations are to plant plenty of fresh springs in moist soils and carry out an efffective weed control program. Nitrogen fertilizer should be used as soon as growth starts.

"Liberal fertilization especially with nitrogen is recommended. Research results suggest a 4-1-2 ratio for optimum growth in sandy soil."

★

Don't neglect feeding alfalfa fields after taking off heavy cuttings of hay, advises George D. Corder, University of Kentucky agronomist.

Some farmers may figure that with high yields of hay, their soils don't need fertilizer, says Mr. Corder. But actually, that is the time to top-dress with fertilizer to keep your alfalfa stands thick and productive.

Mr. Corder suggests adding about 600 lb. per acre of a phosphate-potash fertilizer such as 0-10-20 in the form of a top-dressing each year. Or if this grade is not immediately available, an application of 600 lb. of 0-20-20 or its equivalent can be made in one year and 200 lb. of 60% potash the next year.

Alfalfa is a heavy eater of phosphate and potash. Agronomists estimate that a three-ton crop of alfalfa will remove from the soil 35 lb. of phosphate and 135 lb. of potash.

★

The U.S. Department of Agriculture says it will need at least two more years of research to decide if mass release of sterile male screwworm flies over Florida is worth a try as a practical means of ridding the southeastern states of this destructive pest.

The small Caribbean island of Curacao was cleared of screw-worms in an experiment ended last January, in which great numbers of sterile male flies were released over the island. This successful experiment might be used to control or eradicate this pest of livestock in Florida, but there are problems, essentially those of mass production.

It would mean covering 50,000 square miles instead of 170; distributing 50,000,000 sterile flies a week instead of 200,000; establishing and operating large rearing laboratories; recruiting and training numbers of entomologists, instead of the half-dozen workers as in Curacao.

Screw-worms each year cause about a $10,000,000 loss in Southeastern livestock. From eggs laid on animal wounds, maggots hatch that eat into the live flesh. Screw-worms normally overwinter only in Florida and in the Southwest.

★

A rat is a good acrobat.

John M. Amos, associate entmologist at Virginia Polytechnic Institute, has been compiling some facts on the amazing feats performed by rats, with the aim of letting farmers know what they're up against when it comes to rat control.

It seems: A rat can walk along horizontal wires and cables. It is possible for a rat to climb a vertical wall of concrete blocks or rough brick. He can climb a rusty vertical pipe with a 1½ to 4 inch inside diameter. He can reach 13 inches vertically, so a reaching distance of 18 inches is used for ratproofing. A rat can jump 2 feet vertically from a standing position, and more than 3 feet with a short running start.

From a standing position, a rat can jump 4 feet horizontally. From a height of 15 feet he can jump 8 feet horizontally. He can enter a building by dropping two or three stories through a skylight, and live to tell the tale.

A rat is a good swimmer and can enter a building through water seals in the plumbing. When trying to burrow under a wall, a rat will dig to intersect the wall face about 18 inches below the ground level. As he goes deeper along the wall, he will stop burrowing if he comes in contact with an object in the horizontal plane, such as the ledge formed by the footing.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The New Jersey conference for pesticide dealers, held at New Brunswick on Nov. 16, presented information on control of insects and plant diseases, with representatives of the New Jersey state agricultural experiment station and Rutgers taking part in the discussions. . . . Croplife announced that it has been accepted for membership in Business Publications Audit of Circulation, Inc., and that BPA audit reports on the newspaper's circulation are now available.

John Cipperly, Croplife's Washington correspondent, wrote that the United States has shown an "exasperating lack" of understanding in connection with the social and economic changes now taking place in farm communities of the nation. The chemical age, along with other advances in farm technology, is bringing about the transition.

Charles W. Priddy & Co., Norfolk, Va., announced the start of construction on its granular fertilizer plant. The plant will also make conventional-type fertilizers, according to S. Y. Priddy, president. . . . Both production and sales of potash showed an increase in 1954, the Bureau of Mines, U.S. Department of the Interior said in a report just out. Exports were reported to be up and imports down.

James F. King was appointed assistant to the president of Freeport Sulphur Co. in New York. . . . Chipman Chemical Co., Bound Brook, N.J., announced a number of organizational changes and transfers affecting more than a dozen individuals. . . . USDA announced that the chemical structure of the synergist material, sesamolin, has been determined by Dr. Morton Beroza. The material may now be synthesized for greater production.

Pennsylvania Salt Manufacturing Co. started construction of a plant for production of granular type commercial fertilizers in Paulsboro, N.J. . . . The Portland (Ore.) Seed Co. bought controlling stock in the Chas. H. Lilly Co., Seattle.

Acreage allotments for cotton in 1956 were announced by USDA. The new figure is 721,904 acres less than those allotted for 1955. Twenty one states were listed in the allocations. . . . California Fertilizer Associations voted to include aqua ammonia converters and distributors of fertilizers eligible for CFA membership, in an expansion move. The 36th annual CFA convention was held at San Francisco, Nov. 6-8.

The USDA predicted a cotton output of 14.8 million bales for 1955. Harvesting conditions were unusually good this year. . . . Specialty Oil Products announced the sale of its Ammo-Gro Division to a new group incorporated under the name of Ammo-Gro, Inc.

Howard L. Peterson was named president of the Nebraska Fertilizer Institute, Inc., at a meeting in Lincoln. . . . GLF Exchange dedicated its new $750,000 fertilizer plant at Big Flats, N.Y. . . . Shell Chemical Co., Ltd., and Fisons, Ltd., announced that they would act together in the construction of two new fertilizer plants in England. Total expenditure was announced as $30,800,000.

Diamond Black Leaf Co. announced Nov. 2 that it would take over operation of Geigy Agricultural Chemical Co. plant at Des Moines, Iowa, on Dec. 1. Emil P. Gerdes, Midwestern manager for Geigy, joined Diamond and will remain in Des Moines.

The need for dealer education and better sales promotion tools were stressed at the annual convention of the Northwest Plant Food Assn. at Bend, Ore., Nov. 1-3. Dr. Russell Coleman, executive vice president, National Plant Food Institute, was a featured speaker.

A heavy explosion ripped through the Velsicol Chemical Corp. plant at Memphis, Tenn., on Nov. 2, killing one worker and injuring 15 others. Cause of the blast was not determined immediately. . . . The Food and Drug Administration extended the date that the Miller Amendment becomes effective on 33 chemical compounds. A group of 20 pesticides were to come under the law on Jan. 22 and 13 others, on March 1.

Davison Chemical Co. Division of W. R. Grace & Co. will build a liquid fertilizer plant at Wakarusa, Ind. . . . U.S. exports of pesticides in the first half of 1955 increased 18% over those during the first half of 1954.

Potash deliveries in the U.S. and possessions for the first nine months of 1955 were up 7%, according to a report by the American Potash Institute, Washington, D.C.

Lamar Ratliff, 16-year-old Mississippi 4-H clubber, raised an official yield of 304 bu. an acre on his corn plot.

The U.S. Department of Agriculture reported that consumption of fertilizer-pesticide mixtures totaled 149,100 tons in the 1953-54 fiscal year. This represented a gain from 87,000 tons during a year earlier.

Dr. W. J. Zaumeyer, U.S. Department of Agriculture plant pathologist, told the First International Conference on the use of Antibiotics in Agriculture in Washington that soon antibiotics may be used as widely for plant disease control as they now are for control of human diseases.

M. P. Etheredge, State College, Miss., was named president of the Association of American Control Officials at the group's annual convention in Washington. . . . Clyde A. Bower, Oklahoma City, was elected president of the Association of American Pesticide Control Officials. . . . Curtis A. Cox, Virginia-Carolina Chemical Corp., is new general chairman of the Fertilizer Section of the National Safety Council. . . . The National Nitrogen Solutions Assn. renamed Wayne Johnson, Shenandoah, Iowa, as president.

if your product is marketed through distributors and dealers . . .

Croplife is for YOU!

AN IMPORTANT EXCLUSIVE is available to advertisers whose agricultural chemical products are marketed through distributors and dealers. It is Croplife's unique *regional crop-area circulation plan,* carefully developed to fill an urgent need in the industry's marketing and advertising facilities—the need of advertisers to reach the dealers and distributors and farm advisers with an up-to-date story of their products and their consumer promotion plans.

THIS IS THE PLAN: In addition to the weekly circulation to manufacturers and formulators, Croplife is distributed on a regional crop-area basis to the dealer-distributor-farm adviser segment of the industry. The merchandising section in each issue of Croplife is specifically edited for dealers in one specific region. This carefully planned editorial formula insures intense reader interest.

More than 11,000 DEALERS, 1,700 custom operators and 1,000 farm advisers receive the issue of Croplife specifically edited for their regional crop-area once each four weeks. The mailing schedule for this group covers consecutively four geographic regions of the United States (see map) with one of four regional dealer issues: The Northeast Dealer Issue, the South Dealer Issue, the Midwest Dealer Issue or the West Dealer Issue. Each week Croplife goes to more than 3,500 dealers, distributors and farm advisers in one of these four regional crop-areas.

THIS CIRCULATION EXCLUSIVE is available only through Croplife. The regional crop-area circulation to dealers has been carefully developed to fit the particular needs of the agricultural chemical industry. Many individual products have been developed and approved and are being sold for use on a specific crop; therefore, marketing and promotion plans must be directed specifically to the appropriate crop-area. Croplife's dealer circulation developed along crop-area lines offers advertisers the *most flexible medium possible,* designed to give "direct-hit" coverage for specific messages without the higher cost of a larger-than-necessary circulation on an inflexible nationwide basis. Advertisers interested in reaching dealers in more than one region can do so easily and economically with a selective advertising schedule.

In addition to its national coverage, Croplife offers a selective regional circulation plan in these crop-areas

HOW TO USE THE PLAN: Select the regional crop-areas—Northeast, South, Midwest or West—in which you need to reach dealers, distributors and farm advisers with the up-to-date story of your products and your consumer promotion plans. Plan your message to inform and to educate this group. Then, select the appropriate issues of Croplife to carry your advertisements. Croplife's printed circulation statement outlines the four regional crop-areas in detail and gives the issue-by-issue mailing schedule. Ask us for a copy.

AND SOON—4000 additional selected dealers will be added!

BEGINNING IN JANUARY this important circulation exclusive becomes even more valuable to advertisers who are reaching dealers through the pages of Croplife. An additional 4,000 selected dealers handling agricultural chemicals will be receiving the issues of Croplife edited specifically for their crop-areas. One thousand dealers in each regional area have been screened and verified and will be added to Croplife's controlled circulation plan, bringing the total number of dealers, distributors and farm advisers receiving Croplife to more than 18,000. Each week Croplife will go to more than 4,500 of these interested readers in one of the four regional crop-areas.

MAKE YOUR PLANS NOW to capitalize on this unique advertising opportunity, exclusively through the pages of Croplife.

WRITE-WIRE-PHONE for the full story of your advertising opportunity in

Croplife . . . for richer sales fields

New York, 551 Fifth Ave.
Murray Hill 2-2185

Minneapolis, 2501 Wayzata Boulevard
Federal 2-0575

Published Weekly by
Miller Publishing Company
at Minneapolis
Issued Monday. Advertising Forms
Close 14 Days Preceding

Chicago, 2272 Board of Trade Bldg.
Harrison 7-6782

Kansas City, 612 Board of Trade Bldg.
Victor 2-1350

Authorities From Three Nations to Speak At Meeting of Weed Society of America

WASHINGTON—The program for the charter meeting of the Weed Society of America has been released by A. O. Kuhn, program committee chairman. The meeting will be held Jan. 4-5 at the Hotel New Yorker, New York City.

Leading authorities from three nations will gather at the meeting to discuss latest developments in the field of weed control, according to Mr. Kuhn, assistant to the president, University of Maryland, College Park, Md.

Officers of the society are R. H. Beatty, American Chemical Paint Co., Ambler, Pa., president; W. B. Ennis, Jr., USDA, State College, Miss., vice president, and W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., secretary-treasurer.

The Northeastern Weed Control Conference, host to the Weed Society of America Charter Meeting, will have a program and business session Jan. 6, following the society's meeting.

Theme of the first day of the Weed Society of America meeting will be "Modern Weed Control—A New Science." The second day will be devoted to sectional meetings to discuss various aspects of modern weed control.

Mr. Ennis will be chairman for the morning session on the first day. The morning program will include: A welcome from Mr. Beatty and J. J. Van Geluwe, president of the Northeastern Weed Control Conference; B. T. Shaw, USDA, Washington, "Weed Control as a Part of American Agriculture;" G. E. Blackman, University of Oxford, Oxford, England, "Problems, Progress and Organization of Weed Control in England," and E. G. Anderson, secretary, National Weed Committee, Ottawa, Canada, "Problems, Progress and Organization of Weed Control in Canada."

The afternoon program will get under way under the chairmanship of Mr. Beatty with a panel discussion of "Problems, Progress and Organization of Weed Control in the U.S." On the panel will be W. M. Parker, USDA, Beltsville, Md.; B. H. Grigsby, Michigan State University; R. J. Aldrich, USDA and Rutgers University; Mr. Ennis, and W. A. Harvey, University of California, Davis.

Also on the afternoon program will be:

W. E. Loomis, Iowa State College, "Mechanism of Herbicidal Action;" M. T. Goebel, the Du Pont Co., "Industry Views Modern Weed Control;" W. G. Westmoreland, North Carolina State College, "Educational Problems in Weed Control."

The second day of the meeting will be divided into sectional sessions on agronomic crops; horticultural crops; non-cultivated areas; ecological, physiological and edaphic aspects of weed control; turf; public health; regulatory; teaching and extension, and control of aquatic weeds.

Mid-South Farmers Look Ahead to 1956

MEMPHIS — Mid-South farmers have turned their attention from the harvesting of crops to records, meetings and plans for next year's production programs.

Extension officials in Arkansas, Mississippi, Missouri and Tennessee said most of the crops have been harvested and that farmers are turning their thoughts to plans for 1956.

Many farmers are having soil tested on plots where they expect to grow special crops next year.

The Agricultural Extension Service in Little Rock reported that about the only farm work from this fall's harvesting still under way is some late cotton picking.

Rains during the week furnished moisture needed for the growth of winter grazing and cover crops over much of Mississippi, the Agricultural Extension Service there said.

Winter grazing is late in some sections, but is generally beginning to make good growth. Some small grains and cover crops still are being planted.

Much corn in Mississippi still is in the fields and needs to be harvested before it is damaged by rot or pests.

County agents are advising farmers to collect soil samples now. Results of the tests can then be had in time to aid in buying the proper kind and amount of fertilizer before planting time next spring, they point out.

FERTILIZER PRICES

(Continued from page 1)

tributed for the continued farm interest in plant food nutrients has been, says USDA, the continued rise in the plant nutrient content of fertilizers.

An index of this physical change in the composition of plant foods is found in the USDA report which says that although the quantity of fertilizers used in 1953-54 was about 640,000 tons less than in 1952-53, the lower tonnage contained about 250,000 tons more of plant food nutrients.

USDA concludes that farmers believe plant foods are a good buy at present prices. This conclusion is based on the costs of commodities farmers purchased in 1947-49 as compared to 1954. In the base period shown, farmers spent 16% more for all production goods and services in 1954 than they did earlier. Yet at the same time, expenditures for fertilizer and lime jumped by 51% in 1954 over the 1947-48 base.

On the supply side for the coming year, USDA estimates that there will be approximately 4% more nitrogen and potash for the crop year ending June 30, 1956, than there was last year. Little change is anticipated in the supply of phosphoric oxide, USDA states.

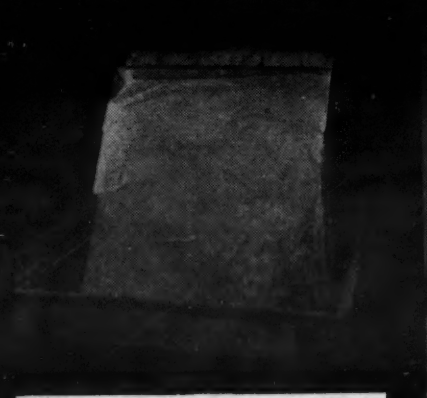
JOINS IRRIGATION FIRM

STANTON, TEXAS—Ralph Jones, a former county agent of Martin County, has resigned his job as irrigation specialist with the extension service to accept a position with Gifford-Hill-Western Co. The company, which manufactures irrigation equipment, will assign Mr. Jones to an area in Colorado. Mr. Jones resigned his position as county agent here last spring to become an irrigation specialist over a 30-county area in West Texas.

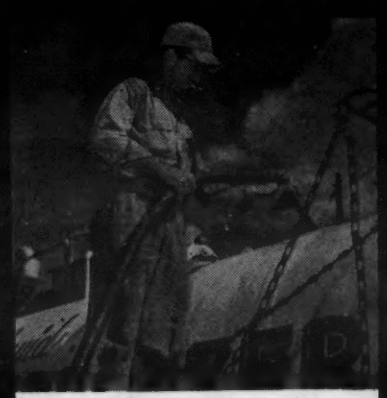
Concentrated LIQUID Fertilizer

Progressive Formulator of Sullivan, Ill., Makes and Sells It with Monsanto Phosphoric Acid.

The flow of phosphoric acid is gauged from the storage tank into a stainless steel vat where the liquid fertilizer is being blended.



Potash nutrient pours into the anhydrous ammonia-urea-phosphoric acid mix in the vat. Phosphoric acid used is completely soluble—made from Monsanto 99.9% pure electric furnace elemental phosphorus.



Concentrated liquid fertilizer is pumped through a ¾" heavy-duty rubber hose into a tank truck. Truck is completely filled in approximately 30 minutes with enough fertilizer for a full day's spray schedule.

Formulator enters cab to drive to first spray job. Parked nearby are fertilizer spray rigs which can be custom-fitted to a wide variety of fertilizing jobs. Some are the products of the inventiveness of the local farmers.

Truck begins spraying concentrated liquid fertilizer on the field. Formulator's entire operation is fast, simple and requires only one man.

Spray rig features simple design, adjustable boom and rapid-delivery nozzles. Pump delivers fertilizer from tank with equal pressure at all nozzles.

Photographs courtesy Alyward Fertilizer Company

Monsanto Concentrated Liquid Fertilizer Nutrients

Diammonium Phosphate . . (21.0-53.8-00.0)
Monoammonium Phosphate.(12.2-61.6-00.0)
75% Phosphoric Acid . . . . . (00.0-54.5-00.0)
Dipotassium Phosphate . . . . (00.0-39.9-53.0)
Monopotassium Phosphate .(00.0-51.6-34.2)

They're highly concentrated—cost you less to store and handle. They're pure—give you extremely close control of formulation. And—your supply is assured by Monsanto, world's largest producer of elemental phosphorus. Write now for "Concentrated Water Soluble Fertilizers" to MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 710 North Twelfth St., St. Louis 1, Missouri.

MONSANTO
CHEMICALS—PLASTICS

Serving Industry . . . Which Serves Mankind

WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

The extent of the cooperation between the U.S. and Britain in the field of weed control, particularly in connection with research, has been underlined by the invitations given to two British scientists to attend the charter meeting of the Weed Society of America in New York next January. (See story on page 17.)

Prof. G. E. Blackman of Oxford University and Prof. R. L. Wain of Wye College, University of London, are expected to come to New York for the meetings. In some respects their visit will be in reciprocation of the visit paid to Britain in 1954 by Dr. Warren Shaw, U.S. Department of Agriculture and secretary-treasurer of the new organization.

Dr. Shaw addressed the British Weed Control Conference on "Recent Advances in Weed Control in the U.S." Appropriately, Prof. Blackman will address the Weed Society of America on the "Problems, Progress and Organization of Weed Control in England."

Both Prof. Blackman and Prof. Wain have played leading parts in the development of weed control in Britain. Prof. Blackman directed the work of the Agricultural Research Council's unit of experimental agronomy which initiated experiments with a compound that they considered might make a good selective weed killer; 9 years later it was estimated that the compound was used on between 50 million and 100 million acres of land.

At the same time, an impressive program was being carried out by the council's unit of plant growth substances and fungicides under the direction of Prof. Wain.

It is on these two units that the main responsibility for state-aided research into problems of weed control rests.

Much of the pioneer work on new herbicides has been carried on simultaneously in the U.S. and Britain. There is both cooperation and friendly rivalry and though there are many more research units in the U.S. than in Britain, the Britishers feel they can "keep up their end."

Australian Grasshoppers

Conditions are just right for hatching of the greatest mass grasshoppers in Australia since 1 Ripe for attack is an area of million acres of vegetable and ce crops valued at the equivalent of $ million. The states affected are South Wales and Victoria. swarms cover an area of 110 sq miles.

Aerial spraying is being used combat the pests. A Dakota craft has been chartered and fitt with tanks carrying 700 gals. insecticide, enough to cover acres.

Eight mobile radio units of army are patrolling the area an Proctor aircraft is locating swa and dropping markers for the use the Dakota. Farmers, meanwhile, harvesting overtime to get in as m of the crops as possible before real attack comes.

Food Contamination

The Royal Agricultural Society England, in the annual report p sented to members at a meeting London Dec. 1, suggests that an thoritative statement should be m on the subject of the chemical c tamination of vegetables and fr through spraying and pest cont methods.

The matter should be treated one of the utmost urgency, the port states in calling for action the Ministry of Agriculture.

Discussing risks arising from spra ing and pest control, the report sta that attention was drawn in l year's report to uneasiness express in many quarters about the dang both in handling the materials and the possible effects on human hea from the slow accumulation of poiso ous substances.

The Ministry of Agriculture h stated that it is willing to revise a modify government regulations wh evidence is presented that justif such action.

The report comments: "But t difficult and involved problem of t chemical contamination of vegetabl and fruits that are eaten in the r state to an increasing extent s remains. The consumer has eve right to be alarmed and to look f an authoritative statement from responsible body that the whole su ject is being examined as a matt of the utmost urgency."

Fertilizer for Vietnam

The International Cooperation A ministration has announced a furth list of U.S.-financed awards for t supply of fertilizer to Vietnam. T total involved is $680,219 f.o.b. this amount U.S. firms obtain bu ness for only $146,650, all for a monium sulfate. Japan takes the bu of the trade with Germany and H land providing small amounts.

Michigan Firm Appoints John C. Sexson to Post

LANSING, MICH. — Farm Bure Services, Inc., Lansing, has appoint John C. Sexson manager of its pla food manufacturing division, to su ceed Adolph F. Ecklund, who h become manager of the engineeri and construction division.

Mr. Sexson is a native of Swi City, Ind., and is a graduate in agro omy from Purdue University, Lafa ette, Ind. He joined Farm Bure Services in 1947.

APHID ON INCREASE

LAS CRUCES, N.M.—The spott alfalfa aphid is on the increase Dona Ana County, according to Jo Durkin, New Mexico entomologi They are causing the most damage young alfalfa stands.

Pipeline
from an ocean of brine...
BORAX
Sodium Tetraborate, technical 99.5% $Na_2B_4O_7 \cdot 10H_2O$ in coarse and fine granular and powdered grades
BORIC ACID
PYROBOR®—Dehydrated Borax
V-BOR*—Refined Pentahydrate Borax
From fabulous Searles Lake at Trona, California, come basic chemicals indispensable to Industry and Agriculture.
POTASH
Agricultural Muriate 95-98% KCl, Chemical Muriate 99.5% KCl, and Sulphate 95-98% K_2SO_4
American Potash & Chemical Corporation
TRONA
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Offices: 3030 West Sixth Street, Los Angeles 54, California
99 Park Avenue, New York 16, New York
214 Walton Building, Atlanta 3, Georgia
Export Division 99 Park Avenue, New York 16, New York
Plants Trona and Los Angeles, California; San Antonio, Texas
SODA ASH
Sodium Carbonate, technical 99.2% Na_2CO_3 58% Na_2O in granular and fine granular grades
SALT CAKE
Sodium Sulphate Anhydrous, 97.0% Na_2SO_4 minimum, in regular and industrial grades
LITHIUM
Lithium Carbonate, Lithium Chemicals, Lithium Ores
*Trade Mark AP&CC
Producers also of—BROMINE CHEMICALS, and a diversified line of specialized agricultural, refrigerant and industrial chemicals

ESA Head Says Bug "Share-Croppers" Take More Than Their Share of Output

Insects made their appearance very early in geological time. By evolutionary process the maladjusted were eliminated and those which survived assumed a position of dominance in the animal world long before man made his appearance.

Entomologists have discovered, identified and classified about 800,000 species of insects. This represents probably little over half of the world insect fauna.

We are "share cropping" with insects which are taking a far greater share of our annual production than we realize. As world populations increase, the competition between insects and man will become greater.

To hasten the complete supremacy of man over insects, basic and fundamental research should be expanded. Our great advancement toward this goal has had its origin in basic research and we need several thousand answers to that ever-present question, "Why?"

The vinegar fly is the most studied animal in the genetics laboratories and has contributed much to the science of genetics, yet our knowledge of the genetics of insects is poorly understood. This is exemplified by the resistance of the house fly to insecticides.

Our demands for quality have changed. Fruit, grain and other agricultural products readily accepted at the turn of the century could not be moved in interstate commerce or be sold on the market under present-day regulations.

Orchardists now grow fruit 90% free of insect damage instead of 50-60% damaged as in years gone by.

The control of ticks and screwworms through knowledge gained in research made possible the development of a livestock industry in the South.

Entomologists now recognize that insect control has two phases:

1. **Population Management.**
2. **Emergency Control Measures applied when insects get out of bounds.**

The first phase is the more desirable and should be used in long-time planning to protect against insect losses. It covers crop rotation, resistance bred into plants, natural control by parasites and predators, seed and soil treatment, drainage of pools and swamps, management of shore lines and preventive spray programs. Nature is more effective than man in the management of insect populations.

The second phase calls for drastic and sometimes expensive suppressive measures applied often after damage is underway. The need for this type of control can be reduced if the first phase is more widely adopted.

County agents tell us that 25 to 30% of their calls are on insect problems. Few of these agents have had any training in entomology and the crying need is for more extension entomologists to translate research into action programs and fortify these agents now so closely connected with our food production.

Entomologists must now deal with a large array of available insecticides having specific and unique characteristics and behavior under field conditions. We are rapidly approaching the day of "prescription entomology." Large cotton plantations, canning companies and land management agencies now employ entomologists to check crops, measure insect population levels and recommend appropriate specific control measures, or even supervise their application.

Perhaps in the not too distant future, entomologists will establish offices at strategic locations and begin the practice of entomology on a basis comparable to veterinary medicine. The profession of entomology is only 100 years old and had its beginning in the field of avocation. It has been only in the past 50 years that much progress has come in this important field.

EDITOR'S NOTE

This article is an excerpt from the address of Dr. George C. Decker, Illinois Natural History Survey entomologist and president of the Entomological Society of America, at the ESA meeting in Cincinnati, Ohio, Nov. 28, 1955. The title of his paper was "Changing Horizons."

Program for Central California Forum Set

BAKERSFIELD, CAL.—Discussion of the Miller amendment and what pesticide tolerances mean to the agricultural industry will be a feature of the Central California Agricultural Forum to be held Dec. 15 at Bakersfield Inn here.

According to David N. Wright, forum secretary, the following are scheduled to talk on various aspects of the amendment:

Delvan W. Dean, U.S. Department of Agriculture, San Francisco, federal legislation; Allen B. Lemmon, chief of the California Bureau of Chemistry, Sacramento, state regulations; J. E. Swift, University of California, Berkeley, university responsibility, and Dr. L. C. Glover, Shell Chemical Corp., San Francisco, industry's responsibility.

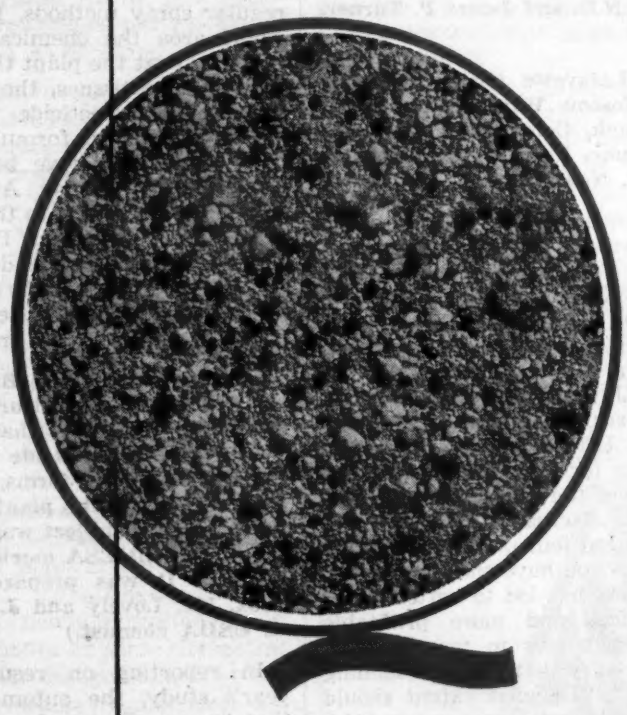
The morning program of the forum will include a discussion of major crops which are replacing cotton by Roy M. Barnes, Kern County farm adviser, and a talk on the spotted alfalfa aphid by Dr. Ray F. Smith, University of California, Berkeley.

In addition to the talks on the Miller Amendment, the afternoon program will include:

W. H. Harvey, University of California, Davis, methods and new materials in weed control; Burt Ray, California Crop Improvement Assn., Davis, value of weed control in crop production, and J. E. Swift, University of California, Berkeley, value of weed control in fighting insects.

ADMINISTRATOR NAMED

WASHINGTON — Appointment of Dr. E. C. Elting as deputy administrator for experiment stations of the U.S. Department of Agriculture's Agricultural Research Service was announced recently by Ervin L. Peterson, Assistant Secretary of Agriculture. For the past three months, Dr. Elting has been acting as assistant administrator of the service.



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Fertilizer
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PLAINLY VISIBLE in any good fertilizer mixture are the dark organic particles of Smirow . . . a sales feature easy to point out, and a satisfying mark of quality to farmers.

100% natural organic, 90% water insoluble, 90% available.

Let us figure the cost of SMIROW delivered to your plant.

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A DIVISION OF SMITH-DOUGLASS CO., INCORPORATED
NORFOLK, VIRGINIA · GRANITE CITY, ILLINOIS

AT SPENCER SEMINAR—Sampling some ammonium nitrate prills are six bank farm representatives who participated in a seminar held recently in Kansas City by Spencer Chemical Co. As a part of the seminar the farm representatives toured the company's Jayhawk Works near Pittsburg, Kansas. From left to right the representatives are: James M. Smith, Corinth, Miss.; Moscow Wright, Columbia, Tenn.; R. P. Rinne, Fairbury, Neb.; A. J. Dinsdale, Maryville, Mo.; Harris Sorenson, Wahpeton, N.D. and James P. Turner, Lafayette, Ind.

Spencer Host to Bankers From Six States at Seminar

KANSAS CITY—At the invitation of the Spencer Chemical Co. bankers from six states met in Kansas City recently to discuss the work of one of the newest figures in banking—the bank farm representative. The occasion was the second bank farm representative seminar conducted by Spencer Nov. 16-18 in an effort to point out the growing importance of the farm representative in the field of agricultural banking.

Six farm representatives, chosen by banking publications, who attended the three-day meeting were: A. J. Dinsdale, Nodaway Valley Bank, Maryville, Mo.; Harris Sorenson, Wahpeton (N.D.) National Bank; James M. Smith, Security Bank, Corinth, Miss.; James P. Turner, Lafayette (Ind.) National Bank; Moscow Wright, Commerce Union Bank, Columbia, Tenn., and R. P. Rinne, First National Bank, Fairbury, Neb.

At a luncheon Nov. 18 the group heard Raymond J. Doll, agricultural economist for the Federal Reserve Bank of Kansas City, outline the present and future trends in the agricultural economy. Friday's program followed a flight on Thursday to Spencer's Jayhawk Works near Pittsburg, Kansas, where the farm representatives (FR's) saw how ammonium nitrate fertilizer is made.

Feature of the seminar was a day-long panel discussion at which the FR's discussed four questions: "What evidence do you have that your work with farmers has led to better farming practices and more profitable farming operations in your area?", "Is it necessary that FR have lending authority?", "To what extent should an FR make fertilizer recommendations on the farm?", and "How can an FR help provide for intermediate term credit needs of farmers?"

NAC DIRECTORS—The board of the National Agricultural Chemicals Assn. at its annual meeting in Wilmington Nov. 8-9 discussed plans for an expanded educational program on safety and safe use of pesticides and plans for boosting the use of pesticides in relation to stored grain, grasslands and forage crops, plant diseases and soil insects. Those attending the meeting were (clockwise around the table): G. C. Romig, vice president, American Chemical Paint Co.; Charles H. Sommer, Jr., vice president, Monsanto Chemical Co.; Fred W. Hatch, head, Agricultural Chemical Division, Shell Chemical Corp.; Loren P. Scoville, general manager, Chlorinated Products Division, Diamond Alkali Co.; Fred Shanaman, president, Pennsylvania Salt Manufacturing Co. of Washington (standing); Paul Mayfield, general manager, Naval Stores Department, Hercules Powder Co.; W. W. Allen, manager, agricultural chemical sales, the Dow Chemical Co., and NAC president; James D. Hopkins, president, Hopkins Agricultural Chemical Co.; L. S. Hitchner, NAC executive secretary; E. H. Phillips, director of purchasing, G.L.F. Soil Building Service, Division of Cooperative G.L.F. Exchange, Inc.; J. V. Vernon, president, Niagara Chemical Division, Food Machinery & Chemical Corp.; William J. Lilpfert, senior partner, Woolfolk Chemical Works, Ltd., and Chester M. Brown, president, General Chemical Division, Allied Chemical & Dye Corp.

Name Granular DDT For Control of the Corn Borer in 1956

AMES, IOWA — Application of granular DDT insecticides for control of European corn borer has been found effective in cooperative tests made this year by USDA and Iowa Agricultural Experiment Station personnel at the European corn borer research laboratory at Ankeny, Iowa.

This new method of applying insecticides will be on the list of recommended treatments for the use of farmers in 1956. Both the use and formulation of granular insecticides have been approved by the North Central Regional Technical Committee on Entomology.

When applied to the corn plants, the granules roll into the leaf whorls where most of the corn borer attack is concentrated. Tests indicate that the granular insecticides gave a concentration of chemicals in the leaf whorl that was 20 or more times greater than the concentration with regular spray methods. In the moist whorl area the chemicals from the granules coat the plant tissues. When they eat the tissues, the corn borers pick up the insecticide.

Best results in formulating granular insecticides have been attained by use of granular Attaclay and Bentonite, according to the entomologists' report. Although DDT will be the toxicant recommended for such use in 1956, a number of other insecticides have been tested and found effective for use with granules.

Entomologists T. A. Brindley and H. C. Cox and agricultural engineer W. G. Lovely report that the granular form of insecticide is easier to handle than other forms, and leaves less residue on the plant. (A paper covering this subject was presented at the recent ESA meeting at Cincinnati. It was prepared by Mr. Cox, Mr. Lovely and J. E. Fahey, a USDA chemist.)

In reporting on results of this year's study, the entomologists say that "more effective borer control is obtained with granular particles in the 30/60 mesh range than with larger sized particles. Granules impregnated with 5% DDT should be used at the rate of 15-20 lb. an acre when applied with ground equipment, and 20-25 lb. an acre when applied by airplane."

In describing the optimum timing and methods of application, the following information is issued: "The most effective method for timing applications has been observation of leaf feeding. The number and timing of treatments depend on the severity of the infestation and the degree of control desired. In general, one application to commercial corn should suffice. Seed or other valuable crops may well receive two applications.

"A single application for first brood control treatment should be applied as soon as 75% of the plants show evidence of recent feeding in the whorl providing the corn is not more than 7-10 days from tassel emergence. If a second application is desirable, it should be applied 7-10 days after the first."

Application equipment best suited for granular application of pesticides to corn for borer control is generally limited to adaptations of metering mechanisms of grass seeders, grain drills and fertilizer distributors. Individual metering hoppers over each row or conventional seeder hoppers with the outlets closed except for three over the corn row, have been used with satisfactory results.

On the other hand, the entomologists report, conventional row crop dusters have been found unsuitable for granular application because the material packs and bridges over in the hopper and is delivered to the plants in uneven patterns at a locity considered too high for g deposit. "For best results," the formation says, "the granular terial should be released in a b 12 to 14 inches wide approxima 8 to 10 inches above the whorl of corn plant for first generation bor The same width of band is gener required for second generation."

"Aircraft properly equipped a suitable for application of granul Equipment designed for air seedi of rice gives the best distribution granules. Air seeding devices app granules better than conventio crop dusting equipment. The effe tiveness of crop dusting equipme is variable and all such units shou be carefully checked for rate a pattern before using for applic tions of granules. For best distr bution of granules, aircraft shou fly 35-40 feet above the groun The actual swath width must evaluated for each plane and set flying conditions," it is stated.

Caution must be observed in plication of granular DDT as in ot types of insecticides, it is pointed "Experiments have shown," the en mologists say, "that practically DDT reaches the kernels inside husks. Roasting ears or mature gr from such plants may be eaten or to livestock with complete safe On the other hand, light residues m remain on the leaves, stalks, hus and silks. Such evidence as is n available indicates that DDT resid left on the plants, following use this insecticide in strict accordan with directions, will not produce effects on livestock to which su plants are fed.

"Therefore, until more informati is available on the possible ill effe to man from consuming the residu occurring in milk, DDT-contaminat plants or portions thereof should n be fed to dairy animals. Animals ing finished should not be fed DD contaminated forage for at least days before slaughter."

Peter C. Crolius

JOINS NITROGEN DIVISION — Peter C. Crolius has resigned his po sition as editorial assistant with th National Plant Food Institute, Wash ington, D.C., to become agricultura writer for the Nitrogen Division, A lied Chemical & Dye Corp., Ne York City. His resignation become effective Dec. 5. As a member of th institute's staff, Mr. Crolius was as sistant editor of the Plant Food Re view and managing editor of th Weekly News Report. He joined th staff in 1954. A native of Rhode Is land, Mr. Crolius was graduated i 1954 by Cornell University, with B.S. degree in agricultural journal ism. Previously, he served with th army in World War II and wit the navy during the Korean War In his new position with Allied h will be associated with John Waugh director of advertising and Joseph B Martin, public relations assistant.

ESA MEETING

(Continued from page 1)

al and biological means. Sections cluded teaching, physiology, toxiology, apiculture, insects and plant iseases, medical and veterinary enomology, extension and regulatory ntomology, plant pest control and uarantine and chemical control.

The Section on chemical control vestigations was under the chairanship of Dr. B. B. Pepper, Rutgers niversity, New Brunswick, N.J.

Three successive papers, prepared r presentation at this session, dealt ith control of the European corn rer. The subject matter had to do ith the use of granular insecticides, rmulations, rates and timing of aplications. Two of these papers were repared by three entomologists asociated with Iowa State College, mes. They were H. C. Cox, W. G. ovely and T. A. Brindley and the rst of the papers covered the use f granulated insecticides for corn rer control.

They reported that in 1955, granlated insecticides for the third ear were somewhat more effective han emulsion sprays for control. DDT granules continued to give ery good borer control under extensive testing; however, six other ranulated chemicals showed promse in a preliminary test. Better ontrol was obtained with formulations containing an attapulgite arrier than with those using other arriers.

Borer control with formulations of 0/60 mesh particle size was superior o that obtained with larger particles. igh rates of application of granules f low concentration gave better kills han low rates of application of granles of high concentration. (Further etails on page 20, this issue of Cropife.)

Their other paper reported on tests onducted with several types of mahines for applying granulated inecticides to control the first genration European corn borer. The aper described as being used successfully, the following equipment: roto-bar type grass seeder, a conentional fluted-feed grass seeder, a rass seeder with reciprocating chains nd a double hopper-bottom, and a odified, fluted-feed grain drill. In ddition, conventional duster equipent was tested, they said.

Carriers used for the insecticides in these studies varied considerably in size, shape and volume weight as well as flowability and bridging characteristics. Metering mechanisms such as those found on grain drills and grass seeders, if they are arranged to give sufficient clearance, can be used to apply granulated insecticides for the control of corn borer.

The third paper in the series on orn borer control, dealt with resdues. It was prepared by Jack E. ahey, Harold W. Rusk and H. C. ox. In their studies of residues from ranulated insecticides applied to orn, formulations were prepared ith nine different diluents. "A clay ype diluent gave greater residue deposits in the whorl of corn plants han hard diluents," the paper reported. "Although the data are not conclusive, there are indications that he 30/40 mesh granulated insecticides deposit greater residues in the lant whorl than do larger or smaller article size formulations. In studies f the distribution of residues from ranulated insecticides on corn plants, he proportion of the residue in the horl and leaf axils was greater than hat deposited by conventional sprays n these plant parts," they said.

G. Mallory Boush, Kenneth Starks nd Richard Thurston, University of entucky, Lexington, were co-authors f a paper which reported the reults of experiments to control the green peach aphid on burley tobacco. They told of tests made in both laboratory and field for control of this pest. A total of 17 materials was included in the tests in an effort to determine their comparative toxicities against this pest. Chlorthion, an insecticide of comparatively low mammalian toxicity, was found to be as effective as parathion in both laboratory and field tests against this aphid. Systemic insecticides were tested in the greenhouse for effectiveness against the pest.

Chemical control studies of the wheat curl mite were reported in a paper by Edmon J. Kantack and Herbert Knutson, department of entomology, University of Kansas, Manhattan. They reported that 30 chemicals were tested as sprays. Parathion at the rate of 0.25 lb., OS-2046 at 2 pt., and diazinon at 0.25 lb./acre produced the highest initial mite reductions. Dieldrin at 1 lb., chlorobenzilate at 1 to 1.5 lb. and endrin at 0.5 lb./acre gave low initial reductions but the highest mortality at 28 days.

The maximum concentration not affecting germination was determined for six systemics used as seed treatment. Seed treatment was superior to soil drench. Compounds 12008 and 12009 at ½ lb. per bushel produced highest mite mortality. In no case did treatment produce wheat streak mosaic control during the one year of field tests, when viruliferous mites were constantly introduced onto the wheat plants.

Donald A. Wilbur, Kansas State College, Manhattan, presented a paper on liquid protectants for application to farm-stored wheat, covering the 1952, 1954 and 1955 seasons. He said that applications were made using small trombone-type hand sprayers to newly-harvested grain at the combine or at some convenient place between the combine and the granary. Favorable results were secured in preventing damage to the grain during the first season of storage, he said. Farmer approval of the liquid treatment was practically unanimous, he observed.

Two Iowa State College experimenters, Paul A. Dahm and Norman L. Jacobson, presented a paper on "Effects of Feeding Systox-treated Alfalfa Hay to Dairy Cows." In the tests, they said, systox-treated hay containing an excessively high average residue of demeton toxins of 41 ppm was fed to three cows of different breeds at a uniform rate (ranging from 0.29 to 0.38 mg./kg. body wt. day for the three cows) for 56 days.

No adverse effects on weight changes and milk production were observed and no significant inhibition by the milk occurred. However, a gradual decrease in red blood cell cholinesterase activity developed during the last six weeks of feeding.

Herbert H. Moorefield, Carbide & Carbon Chemicals Co., New York, presented a technical paper on "The Origin of DDT Resistance," in which he reviewed previous studies and described new evidence from later tests.

He said that earlier studies have shown that the presence of the enzyme, DDT-dehydrochlorinase, can be correlated with the resistance of adult house flies to DDT. "New evidence demonstrating the presence of this enzyme in the larvae of susceptible strains of flies indicates that the resistance phenomenon cannot be explained as a de novo synthesis, but is apparently a mechanism, acquired through intensive selection, which quantitatively increases the enzyme and carries it through the pupal period in a sufficient titer to detoxify lethal doses of DDT," his paper said.

Farm Paper Editors Named to Receive Soil Builder Awards

CHICAGO—Carl Deitemeyer, managing editor of the Nebraska Farmer, Lincoln, Neb., and George Johnson, crops and soils editor of Successful Farming, Des Moines, Iowa, were honored Nov. 30 for effectively carrying the message of soil building to their farm magazine readers.

They received the Soil Builders Award for Editors, presented by the National Plant Food Institute, at the annual meeting of the American Agricultural Editors Assn. here.

The institute sponsors the award in a nation-wide contest conducted annually in cooperation with the association. Louis H. Wilson, secretary and director of information of the institute, made the presentation. Nationally-known leaders in agriculture were judges for the contest.

Mr. Deitemeyer was winner in the class of farm magazines with less than 300,000 circulation. Mr. Johnson was the winning writer among the farm magazines with more than 300,000 circulation.

Certificates for "superior journalistic contributions toward the building of the soils of our nation" previously were awarded to Kirk Fox, editor, Successful Farming, and Tom Leadley, editor, The Nebraska Farmer.

Mr. Deitemeyer is a graduate of the University of Nebraska in agricultural economics, agricultural marketing and agronomy. He became managing editor of the Nebraska Farmer in 1951 and has served as associate editor of the Colorado Rancher and Farmer since 1947.

Previously, he served as a county agricultural agent in Gosper and Burt counties in Nebraska (1942-45) and as farm editor of the Omaha World Herald (1945-47), and promoted the first soil and moisture conservation program in the nation. He married Ramona Wook, former state 4-H club champion and home economist, who at present is "Mrs. America." They have five children.

Mr. Johnson grew up on a farm near Durand, Ill., and in 1949 received his degree in agronomy from the University of Illinois. For two years, after graduating, he served as assistant farm advisor in Whiteside County, Illinois, and since 1951 has been the crops and soils editor for Successful Farming. He is a member of the American Society of Agronomy, Soil Science Society of America, and Soil Conservation Society of America.

FARM AND HOME CONFERENCE

BERKELEY, CAL. — How agricultural chemicals can be used on the farm will be among the topics for discussion at a mid-winter Farm and Home Conference to be sponsored by the University of California on the Davis campus. The conference is scheduled for Jan. 26-27, according to an announcement issued by Stanley B. Freeborn, provost.

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

Technical Opportunity Beckons

The need for additional members to the technological team that keeps the chemical industry in motion is being heard in many quarters these days. This goes for the industry in general, but specifically, it includes also the agricultural chemical segment which is growing not only in importance, but in physical stature as well.

Henry H. Armsby, chief of engineering education of the U.S. Department of Health, Education and Welfare, points out that the past century has seen engineering and science applied to practical problems to an unprecedented extent. More new developments have come about in the past 100 years than had been known in all prior history!

The growth of our industrial system, both in size and in complexity, has been both the cause and the result of the continual expansion of the "technological team," particularly in recent years, he observes. He calls this team "our most valuable national resource," since it has been the major contributor to the doubling every forty years, of the American standard of living, now at the highest level the world has ever known.

Another voice, heard frequently in its plea for more young people to plan careers in scientific pursuits, is that of the Manufacturing Chemists' Assn. The chemical industry, it says, spends well over $300 million annually and employs 17,000 in research and development. "Since 1900," MCA reports, "the number of research scientists and engineers has doubled every decade. The demand continues to grow and the needs in many areas are critical."

Dr. Clive Megee, assistant dean of agriculture at Michigan State University, recently appealed to young people to consider the field of agriculture. He declared that "there is opportunity and a growing need for college-trained people" in this field, and pointed out that the land-grant colleges are graduating only about half enough people to meet the demands of present-day agriculture.

There are some 500 different types of jobs in the various phases of agriculture that could employ about 15,000 new college graduates each year; but only about 8,500 men and women are graduated each June. Certainly this should be an incentive to many.

Still others have been heard lately in the same general plea for increased numbers of well-trained people to get into agricultural pursuits. Dr. N. D. Peacock, vice-dean of agriculture at the University of Tennessee, says that not enough people are entering the teaching and research fields of agriculture.

If the number of people graduating from agricultural colleges is few, then the number of those planning on entering research or college teaching is even smaller, since only 10% to 15% of these graduates get into this field. "As the competition from business and industry increases," Dr. Peacock says, "there may be a danger that important advances in agriculture will be delayed for lack of adequate leadership."

These comments, coming from men who are in a position to know the score, bear thinking about. When looking the situation over, the individual's first reaction is to shrug his shoulders and say, "What can I do about it? It's too big a problem for me."

Actually, we can encourage bright young men and women in our communities to apply themselves to the study of scientific subjects that lead into careers having to do with agriculture—like entomology, plant pathology, agronomy, agricultural engineering, etc. If young people are looking for positions where the future is both bright and as secure as any could hope to be, this field is the one to enter!

As Dr. Megee remarked in his talk mentioned above: "These are the jobs that supply our food, most of our fiber and some of our building materials. As long as we eat, wear clothes and live in houses, there will be jobs in agriculture."

Quote

"Any farmer could, in the year 1956, by proper application and attention to the efficiency of his own operation, increase his farm income five times, yes, ten times, as much as any action of the Congress of the United States would affect it."—Charles B. Shuman, president, American Farm Bureau Federation.

RIO GRANDE SHORT STORY

Prosperity Ends When Water Supply Fails

What happens when a community runs out of water? This has happened along the Rio Grande River in Hudspeth County, Texas, and the picture is not a pretty one.

In this rich farming area a short distance southeast of El Paso, land was at one time worth $500 an acre and up. Big farm homes dotted the river plain and busy little towns were found every few miles. Bountiful crops were raised, especially cotton and alfalfa, and hundreds of workers were employed throughout the year.

Then the water ran out. There was none coming down from Elephant Butte Lake for irrigation, so the farmers began drilling wells. There is no dryland farming in this area where the average rainfall is around 10 inches per year. The new wells pumped salty water and they became saltier from continued use. After a few seasons the land would not grow crops and field after field was turned back to the desert.

A few residents are still trying to farm. Others live in the houses and seek work elswhere. Some have left altogether. The towns have also lost population and business because they depended almost altogether upon the crops raised in the valley.

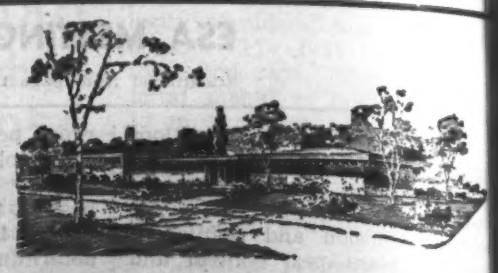
The three little towns, McNary, Acala and Esperanzo, which had a population of 700 during the good days, now have less than 400. The farming acreage has been reduced from 17,000 acres to around 6,000 in a period of only five years. Cotton was the main crop when river water was plentiful, but the acreage has dropped from 12,000 to around 3,000 and yields are less per acre.

The main culprit in this creeping disaster is salt water. Most of the wells still pump a big stream, but the salt content varies from eight to 15 tons of salt per acre foot. In a few years the land has become so salty that nothing will grow on it except worthless salt cedar and a few coarse grasses.

The solution would be found in more rain and snow on the upper watershed of the Rio Grande, so that everyone can have pure water from the river. This year, each farmer was allotted only about 4.5 inches—only enough for one good watering.

Another ray of hope is the de-salting experiments being carried on under government direction. If some method can be devised to de-salt water, this area could return to prosperity in a hurry.

But in the meantime, the residents must live. As they turn to other work, the desert presses in and reclaims the land for her own.



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MEETING MEMOS

Dec. 5—Soils & Fertilizer Short Course, Institute of Agriculture, University of Minnesota, St. Paul Campus.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 5-7—Chemical Specialties Manufacturers Assn., 42nd Annual Convention, Roosevelt Hotel, New York; H. W. Hamilton, 50 E. 41st St., New York 17, N.Y., Executive Secretary.

Dec. 6-8—North Central Weed Control Conference, Hotel Fontenelle, Omaha, Neb., F. W. Slife, University of Illinois, secretary-treasurer.

Dec. 8-9—Alabama Soil Fertility Society, Annual Meeting, Whitley Hotel, Montgomery, Ala., Charles Summerour, American Potash Institute, Montgomery, secretary-treasurer.

Dec. 8-9 — Michigan Fertilizer and Lime Conference, Michigan State College, East Lansing.

Dec. 12-13—Kansas Fertilizer Conference, Kansas State College, Manhattan.

Dec. 15—Central California Agricultural Forum, Bakersfield Inn, Bakersfield, Cal., David N. Wright, Box 791, Bakersfield, Cal., Secretary.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Dec. 28-30 — American Phytopathological Society, Atlanta, Ga.; Glenn S. Pound, University of Wisconsin, Madison, Wis., Secretary.

Dec. 29—Symposium on Health Hazards of Chemicals, before the Pharmacy Section at Annual Meeting of American Association for the Advancement of Science, Atlanta.

1956

Jan. 3-4—Annual Nebraska Fertilizer Dealers Conference, Activities Bldg., University of Nebraska College of Agriculture, Lincoln.

Jan. 4-6—Weed Society of America, Charter Meeting, Hotel New Yorker, New York; W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., Secretary-Treasurer.

Jan. 5-6—Second Annual Mississippi Insect Control Conference, Mississippi State College.

Jan. 5-6—Texas Fertilizer Conference, Texas A&M College, College Station, Texas.

Jan. 6—Northeastern Weed Control Conference, Hotel New Yorker, New York, R. J. Aldrich, Rutgers University, Secretary.

Jan. 10-11—Eighth Annual North Carolina Pesticide School, North Carolina State College, Raleigh.

Jan. 11-12—Wisconsin Insect Control Conference, Lorraine Hotel, Madison, Wis.

Jan. 15-17 — New Mexico Grain & Feed Dealers Assn., Annual Convention, Hilton Hotel, Albuquerque, with Special Portion for Fertilizer and Farm Chemical Dealers; H. B. Hening, Albuquerque, Secretary.

Jan. 16-18—Northwest Vegetable Insect Control Conference, Imperial Hotel, Portland, Ore.

Jan. 16-18—Southern Weed Conference, Ninth Annual Meeting, Hotel Jung, New Orleans; Dr. E. G. Rodgers, Florida Agricultural Experiment Station, Gainesville, Secretary-Treasurer.

Jan. 17—Georgia Plant Food Educational Society, Annual Meeting, University of Georgia, Athens, Ga., Fielding Reed, American Potash Institute, Mortgage Guarantee Bldg., Atlanta 3, Ga., secretary-treasurer.

Jan. 18—Western Oregon Fertilizer Dealer Meeting, Sponsored by the Pacific Northwest Plant Food Assn., Oregon State College, Corvallis, Ore.

Jan. 18-20 — Western Cooperative Spray Project, Imperial Hotel, Portland, Ore.

Jan. 26-27—Custom Spray Operators Training School, University of Illinois.

Jan. 26-29 — Agricultural Aircraft Assn., Inc., Sixth Annual Convention, Wilton Hotel, Long Beach, Cal.; Wanda Branstetter, Route 3, Box 1077, Sacramento, Cal., Executive Secretary.

Jan 27—Colorado Agricultural Chemicals Assn., Cosmopolitan Hotel, Denver.

Jan. 30-31—National Cotton Council of America, Annual Meeting, Buena Vista Hotel, Biloxi, Miss.

Jan. 30-Feb. 3—Purdue Pest Control Operators School, Purdue University, Lafayette, Ind.

Feb. 6-8—Agronomy Section, Association of Southern Agricultural Workers, Atlanta (Ga.), Biltmore Hotel; W. E. Colwell, North Carolina State College, Secretary.

Feb. 6-8—Cotton States Branch, Entomological Society of America, Biltmore Hotel, Atlanta, Ga. W. G. Eden, Alabama Polytechnic Institute, Auburn, Ala., secretary-treasurer.

Feb. 7-9 — National Garden Supply Trade Show, Kingsbridge Armory, New York City.

Feb. 14-16—Agricultural Chemicals Conference, Lubbock, Texas.

Feb. 15-17—California Weed Control Conference, Sacramento and Davis, Cal.; Oliver A. Leonard, Botany Dept., University of California, Davis, Cal., Secretary.

Feb. 15-17 — Western Weed Control Conference, Sacramento and Davis, Cal.; W. C. Robacker, U.S. Department of Agriculture, Nevada Agricultural Experiment Station, Reno, Nev., Secretary-Treasurer.

March 6-7—Fifth Annual Western Cotton Production Conference, Fresno Hacienda, Fresno, Cal.

March 14-18 — National Agricultural Chemicals Assn., Spring Meeting, Hollywood Beach Hotel, Hollywood, Fla., Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

March 28-30—North Central States Branch, Entomological Society of America, Purdue University Memorial Union, Lafayette, Ind.

June 10-13—National Plant Food Institute, Annual Convention, the Greenbrier, White Sulphur Springs, W. Va.

June 28-30—Association of Southern Feed & Fertilizer Control Officials, 14th Annual Convention, Hotel Roanoke, Roanoke, Va.; Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky., Secretary-Treasurer.

June 28-30—Seventh Regional Fertilizer Conference of the Pacific Northwest, Chinook Hotel, Yakima, Wash.

Aug. 17-25—Tenth International Congress of Entomology, McGill University and University of Montreal, Montreal, Canada, J. A. Downes, Science Service Bldg., Carling Ave., Ottawa, Ontario, Canada, Congress Secretary.

Nov. 19-20—Eastern Branch, Entomological Society of America, Hotel Haddon Hall, Atlantic City, N.J., B. F. Driggers, Rutgers University, New Brunswick, N.J., Secretary.

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Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

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All Want Ads cash with order.

HELP WANTED

FACTORY DISTRIBUTORS WANTED BY reputable Midwest manufacturer of fertilizer solutions and applicating equipment. This rapidly growing industry can mean a profitable business in your area with our plan. Inventory investment approximately $3,000. Write: Box 245, Jasper, Ind., or Box 12, Oconomowoc, Wis.

FOR FAST ACTION AND RESULTS try Croplife's CLASSIFIED ADVERTISING

FEED FERTILIZER BRADLEY & BAKER

Farm Chemicals Help Texas Grower Grow 1½ Bale Cotton Yield

ST. LAWRENCE, TEXAS—What is the secret of making money with irrigated cotton? Doris Blissard says the difference between a small profit and a large one is in practicing fertilization and insect control.

Mr. Blissard thinks his own crop is proof of this. This year he had his fields dusted five times for cotton worms of various kinds, and he spread 100 lb. of dry fertilizer per acre.

"It made all the difference in the world," he said, "but I should have made more than the bale and a half per acre that I'm getting. Next year I'll add another 100 lb. of fertilizer and give it a shot of anhydrous ammonia. I've seen others do it this year and some of them beat me a half bale per acre."

Next year Mr. Blissard will have 226 acres of cotton if the allotment is not reduced. With this he will be shooting for two bales per acre.

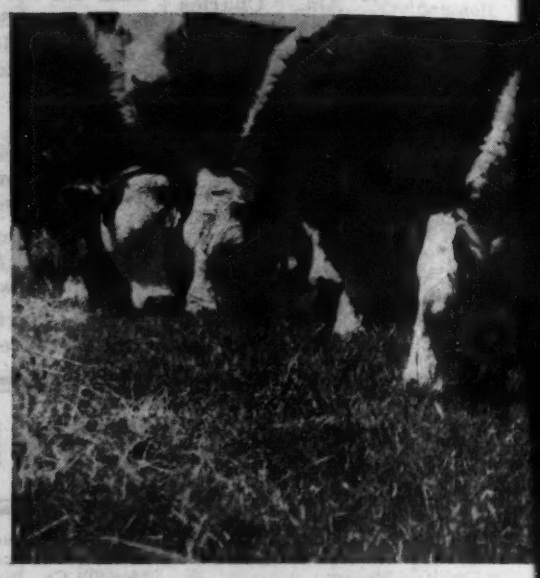
"I ought to produce 450 bales of cotton," he said. "If a farmer can't get by with that kind of a crop, he is a mighty poor manager."

Arcadian®

Makes Every Acre a Market!

Corn, cotton and other field crops today make profits in proportion to the fertilizer used. A 100-bushel corn crop needs 160 pounds of nitrogen, 60 pounds of phosphorus and 120 pounds of potash—most of it from fertilizer. The ARCADIAN line of high-nitrogen fertilizers fills the need, and spells profits for you.

Small grains shoot up big yields when your customers feed them plenty of plant food, especially nitrogen. You can sell ARCADIAN for faster, easier, low-cost plant food application by spray, dribble, top-dressing or injection methods to fit your customers' desires. Custom application creates extra business for you.



Pastures, well-fed on ARCADIAN hi nitrogen fertilizers, help cattle to turn milk and meat at lower cost to fill the gr ing demand for these high-protein foo Your customers save labor by spreadi fertilizer. They also save labor by letti livestock harvest their own feed.

Fruit crops require nitrogen to make plenty of blossoms to produce profitable yields of big, well-finished fruit. Sell ARCADIAN to provide the easy-spreading, quick-acting nitrogen that makes money for fruit growers and for you.

Vegetables, heavy feeders on nitrogen, thrive on the high-nitrogen fertilizers you sell in the ARCADIAN line. Versatile ARCADIAN products provide nitrogen that's quick-acting and long-lasting, liquid or dry, in nitrate, urea or ammonia forms.

Grass hay crops need plenty of nitroge with other plant foods to turn out high yiel of protein-rich feed. ARCADIAN high nitrogen fertilizers can make money for yo while they make hay for your customers. Se ARCADIAN this year!

Sell Arcadian® Products

Write for full information on the complete ARCADIAN line of products for profitable farming

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